THE Genesee Farmer.

THE PRACTICAL SCIENTIFIC FARMERS OWN PAPER.

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PLANT NO MORE THAN YOU CAN CULTIVATE.

WITH a possible war abroad and an actual war at home, farm products can hardly fail to command high prices.

In view of this state of facts, the papers teem with recommendations to farmers to sow and plant as great a breadth of land as possible. One good man in Massachusetts has become so excited that he has issued the following circular:

WAR,
AND
FAMINE.

War is upon us, an no one can tell when it will end.

To forestall scarcity of provisions, which will be sure to follow, let Farmers and all persons having Arable Land, plant as much as possible this Spring.

Plant double your usual amount of Land over.

Spring Rye and Wheat, Corn, Oats, Barley, Beans, Buckwheat, and Potatoes, can still be planted. April 29, 1861.

The author has our sympathy in his patriotic efforts to avoid a famine. We may express our doubts, however, if his advice to "*plant double the usual amount of land over*," is the best that could be given. One of the great drawbacks in American agriculture is a tendency to sow and plant too much land. A few days, ago, we were walking over the wheat fields on a large farm in this county; some looked very well, and some looked very poor; here the crop was all that could be desired, and there it looked as though it would not give back the seed. After showing us the effect of underdraining, of plowing in a crop of buckwheat, of sowing several hundred bushels of leached ashes, of sowing early and sowing late, the farmer remarked, "I have made up my mind to one thing: *never again to sow any more wheat than I can put in well.*"

It is to extra culture, rather than to sowing an extra breadth of land, that we must look for an increase in our agricultural productions. We would by no means advocate any retrenchment in the extent of land planted the present season. Plant all you can, but let the chief aim be to give all you do plant the best of culture. Look at the great corn-growing region of the west. See what a difference there is in the corn grown on some fields to others in the same section. Here the land is dry, clean, and well cultivated, and the crops are good; in the next field it is wet, has been planted late,—the weeds flourish, while the corn is yellow and sickly. Can nothing be done to improve this state of things? It is not a fancy picture. In a tour through the west, the one great fact that impressed us was, that the immense extent of country that one travels through, between here and St. Louis, was not producing half what might be obtained by a little extra culture. A little labor expended in drainage would be of great benefit, while better plowing, and more thorough cultivation with a horse-hoe between the rows, would add millions of bushels to the aggregate crop of the country.

Even in western New York—probably one of the best farmed sections in the United States—it is painful to see the immense amount of land that is not more than half tilled. Look on our spotted wheat fields. The unusually severe weather in March destroyed many acres that would otherwise have produced fair crops, but we must not attribute the loss wholly to the unfavorable season. Acres and acres are still saturated with cold stagnant water, giving one the shivers to look at them. Look at that man plowing up an old meadow, for corn, with an acre in the centre so wet that he has to plow the lot in three triangular pieces, occupying almost as much time in turning round as in actual plowing. How much better it would have been to drain it. He can afford it; it would pay, and there are men enough who lack employment. It would then be the most productive land on the farm. This is not an isolated case. It is difficult to find a farm where there is not more or less land unproductive from lack of drainage.

"Plant double your usual amount of land over," if you will; but let us urge you, for your own sakes and for the sake of our national prosperity, to attend to the improvement of the soil.

CULTIVATION OF THE WHITE BEAN.

We have repeatedly advocated the more extensive cultivation of the bean in this country. It is one of the few plants adapted to our dry climate, that admits the use of the horse-hoe, and which at the same time does not impoverish the soil. It is a "*fallow crop*." Were it consumed on the farm, and the rich manure made from it returned to the soil, it would prove of great value in enriching the land. It differs from Indian corn in this important particular, that while corn is a cereal, and like wheat, barley, oats, rye, &c., is believed to take from the soil *more* nitrogen or ammonia than the crop contains when grown, beans organize all the ammonia they obtain from the soil, from dews, rains and the atmosphere, and retain it with little or no loss. The bean, like peas and clover, is a liguminous plant, and, like them, contains a large amount of nitrogen. And it is certain, that its growth and consumption on the farm would add greatly to the value of the manure and the fertility of the land. Thus, according to Mr. LAWES, the manure from one ton of beans is worth $15.75, while from a ton of Indian corn it is worth only $6.65. These figures may not be applicable to this country, but they unquestionably represent the *comparative* value of manure made from beans and Indian corn. For enriching the soil, and for cleaning it at the same time, there is no better crop than beans.

We are aware that beans are seldom raised for feeding out on the farm, and thus we lose one of the principal benefits to be derived from their culture. Still, when raised for market, they are not a crop that is hard on the soil, and in many sections their culture might be profitably extended. If war continues, there will be an increased demand for beans, and farmers should make arrangements to provide an adequate supply. There is no danger of raising too many, for should prices rule low, they might then be used as food for stock on the farm.

Last year we published a statement from a farmer in this vicinity, who had fed his cows with a mixture of bean and corn meal, in equal parts, and the effect was so good that he made up his mind "to sell no more beans, but feed them to his cows." Another correspondent of the *Genesee Farmer*, in Ohio, says that in 1859 the frost cut his beans while many of the pods were still green. When threshed, these green beans turned, and spoiled the crop for market. His neighbors told him they were lost, as nothing would eat beans. He fed them to his cows, however, both boiled and ground mixed with corn, and the cows not only eat them, but seemed to relish them very much, and gave "large quantities of milk." For sheep, beans have long been known to be excellent. The stalks, too, make good fodder.

In England, the bean is generally grown on a heavy clay soil. It is seldom sown on land that is adapted to turnip culture. The turnip is the "fallow crop" of the light-land farmer; the bean that of the clay-land farmer. It is sown on land intended for wheat, and the use of the horse-hoe between the rows, leaves the land in good condition for wheat in the fall. The white bean of this country differs considerably from the common horse bean of England. The stalks are not so stiff, and the beans, as a general rule, not quite so large. They are not so well suited for heavy clay land as the English bean. They rather prefer a light, dry loam, but with proper culture will succeed on almost any soil except those of a mucky or peaty character. It is very desirable to have the crop ripen early and evenly, and hence a warm soil is desirable.

Beans do well on an old sod. Some prefer to plow it in the fall or early in the spring. But it may be plowed just before planting, and after the other spring work is done. Be careful to cover all the grass, so as to save labor in hoeing. Harrow lengthwise of the furrow, and make the soil as mellow and deep as possible. The first week in June is the usual time of planting in this section. If sown with a drill, the rows are made 30 inches apart, and the seed dropped in the drills from two to three inches apart. If planted in hills, less labor is required to keep them clean. In this case, mark out the land with a marker 2½ feet apart, and plant across the rows from 15 to 18 inches apart, dropping four or five beans in each hill. The seed should be covered about an inch deep. One of our correspondents says he finds an old tin coffee pot or tin pail, with a cover to it, an excellent thing to sow the beans with, when you have no drill. Fix it on a handle sufficiently long to enable you to stand out and hold it near the ground. Punch a hole in the bottom large enough to allow the seed to pass through freely, and planting beans will no longer be a tedious operation.

Beans on sod land plowed up fresh are not likely to be much troubled with weeds. Be this as it may, however, all weeds should be destroyed by the use of the horse-hoe, as soon as they appear. This should be done when the weather is dry, and

when there is no dew or rain on the leaves, as the earth falling on them in this condition will produce rust and injure the crop. Clean culture is very desirable, and the horse-hoe cannot be used too frequently. The stirring of the soil is very beneficial, especially in a dry season, and the cleaner the land the better the crop, and the better will it be for wheat in the fall. It is usual to finish the culture, when the beans are about six inches high, by throwing a light furrow toward the plants with a plow.

The small or "medium" bean is considered on the whole the most profitable variety for ordinary farm culture.

CONDITION POWDERS.—JOHN W. HARNES, of Minnesota, sends us the following receipt for making condition powders for horses and cattle:

2 oz. saltpetre, 2 oz. antimony, 2 oz. rosin, 2 oz. cream tartar, 4 oz. sulphur, 1 oz. copperas, 1 oz. camphor gum; in case of yellow water, 4 oz. copperas.

The ingredients should be reduced to a powder and thoroughly mixed, and the mixture kept dry and not exposed to the air. Dose: One tablespoonful twice a day, mixed in a mash, for three days in succession.

MANGEL WURZEL.—Mr. BIRNIE, of Springfield, Mass., raised last year, on 2½ acres of land, 95 tons of mangel wurzel, or 38 tons per acre, besides 30 loads of leaves. He estimates their cost at 6½ cents per bushel. Mr. JOHN BETTRIDGE, of this county, raised on a quarter of an acre last year, 12 tons of these roots, or 48 tons per acre.

SCAB IN SHEEP.—A correspondent informs us that he has cured scab in sheep by dipping them in a decoction of tobacco. If the sheep have just been sheared, one dipping will generally effect a cure.

RECIPE FOR MAKING "ARTIFICIAL HONEY."

EDS. GENESEE FARMER:—In your May issue I notice a few remarks in regard to "humbug advertisements," in which reference is made to a process of making honey, which is considered "worthless." Sympathizing with your correspondent in his misfortune, who has not only been imposed upon by a worthless recipe, but swindled out of thirty cents in pay therefor, I herewith furnish a recipe, gratis, which may be relied on as the very best. The recipe is as follows:—To 2 lbs. of the best granulated sugar, dissolved, add 1 lb. of strained white honey of superior quality. The sugar should first be dissolved by as little hot water as possible; but should the mixture, after the honey is added and heated, be too thick, it would be advisable to add a little more water, that it may be about the consistency of good honey. The sugar and water are to be put into a vessel—a small brass kettle will answer, in the absence of something better—and heated moderately, but avoid letting it boil as much as possible; the honey is then added and stirred thoroughly five to ten minutes before the removal of the mixture.

The above preparation, by some termed "artificial honey," for table use, is by many preferred to honey alone, even of the best quality; probably not more than one in a hundred would, from tasting the liquid, mistrust it to be anything aside from the best honey. The preparation, it must be apparent, will cost about the same per lb. as the best honey when strained. The great benefit that is derived, if any, from the preparation, is that the taste generally so peculiar to honey, which is so offensive to a great many honey lovers, is entirely removed, so that it can be eaten with perfect impunity. Reader, to satisfy yourself respecting the facts as herein communicated, just make an experiment in "artificial honey," by following closely the directions given above. M. M. BALDRIDGE.

Middleport, Niagara Co., N. Y.

P. S. Every family, however, in the rural districts of the United States, instead of depending wholly on "*artificial* honey," will unquestionably find it much better economy to prepare themselves with a thorough knowledge of the improved system of Bee Culture, as advocated by the Rev. Mr. DZIERZON in Europe, and the Rev. Mr. LANGSTROTH in America, and then commence the business of cultivating bees, that they may supply the necessary article. M. M. B.

STABLE FLOORS.—I would say to N. S., in the last number of the *Farmer*, that I would not make a stable floor either with plank or clay, but with round poles. The way to do it is this: Procure as many poles as will be required, straight as possible, and saw them off at both ends, to the length you design to make your floor. Then procure a strong plank 16 or 18 inches wide—two planks, each 8 or 9 inches wide, fastened together by nailing strong brackets on the under side, will answer—I used a slab from the saw mill. Lay this plank across behind the horses' heels, just low enough for the flooring poles to rest upon it, about two inches, then lay down your poles, keeping them straight on the bottom plank, so that they may look neat. After the poles are all down, with a foot edge cut off any knots or other inequalities. Sift over them a little sand, and your work is done. I think any one who will try a floor made in this way, will not be easily induced to have any other. The interstices between the poles make a good drainage, and the plank behind makes an easy passage for the shovel in cleaning out the stable.

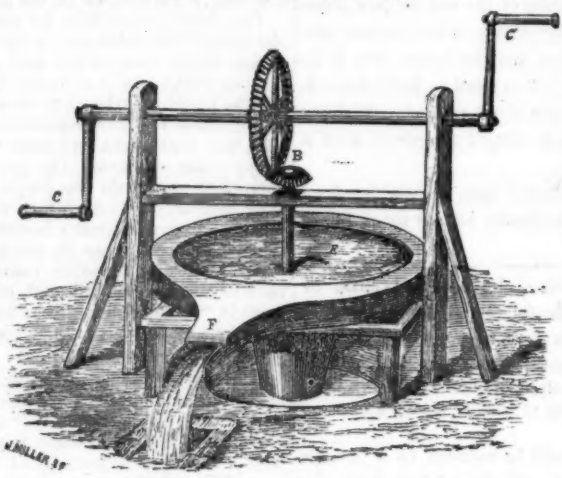
Hartwood, Va. WM. IRWIN, JR.

FARMERS SHOULD KEEP A RECORD OF EACH DAY'S WORK.—So writes one of our correspondents in Michigan. The habit once formed, will soon become as pleasant as it will prove profitable. "It is a fact," he adds, "that many farmers use the pen so little, that when it becomes necessary to sign their names, it is as hard work as turning a double swash in a new meadow."

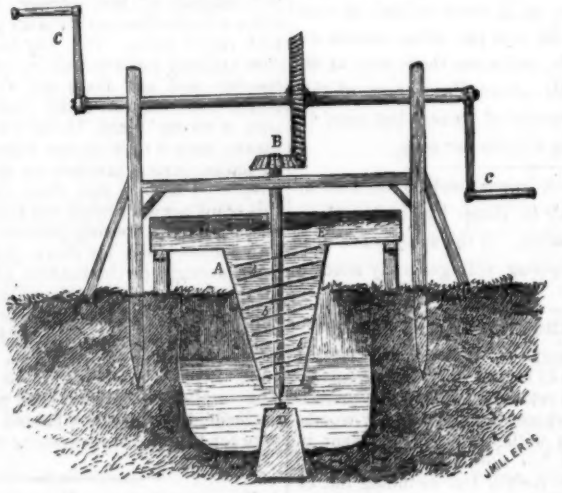
A FRENCH PUMP.

THE *Journal d'Agriculture Practique* gives the following description of a pump exhibited at the Paris Exposition of 1860, and which, it thinks, merits particular notice:

Its construction will be easily understood by the annexed engravings. It is made of a hollow cone, *a*, the apex of which dips into the water, and in which turns a vertical shaft, B, D, provided with disks, *b*, *b*, *b*, slightly inclined in the manner of the threads of a screw. This part is surmounted by an annular cavity, E, from which the water flows through the orifice, F. The ascending movement of the water is explained thus: "The centrigugal force developed by the rapid motion of the first disk in the water causes the liquid to flow back toward the sides of the cone; the side, acting then as an inclined plane, sends it back perpendicularly to itself on the second disk above, which, acting in its turn like the first, sends back the liquid on the third disk, and so on up to the last which sends it with great force into the annular cavity, whence it flows into the apparatus destined to receive it."



PERSPECTIVE VIEW OF PUMP IN OPERATION.



INTERIOR VIEW OF PUMP IN THE WELL.

It appears to be very useful for pumping up the drainage of the barn-yard, as the absence of valves, etc., prevent all danger of clogging; and as it can be made of wood, we escape all difficulty and loss from oxidation. It is also very easily cleaned. All that is required is to unwedge the wheel placed at B, and to withdraw the shafts lined with the disks. "The beveled wheels can be replaced by two cones of wood rubbing against each other."

A stone placed at D, under the vertical shaft, serves to support a socket in which the shaft turns upon a point, in order to render the working more easy. Two handles, *c*, *c*, permit two men to work the pump if desired, in which case it will elevate a large quantity of water.

PEAS. — A correspondent of the *Ohio Farmer* says: "Oats go to form muscle and bone—to develop or enlarge the animal frame, more than to form fat; whereas peas abound more in carbonaceous matter than oats, which is better adapted to the formation of fat than the nitrogenous material, which is so abundant in oats."

It may be worth while to correct this statement, as an important principle is involved. Peas contain much more "nitrogenous material" than oats or any other cereal. It is for this reason, principally, that we have so often recommended peas as a renovating crop. They impoverish the soil but little, while, from the large amount of nitrogen which they contain, their consumption on the farm furnishes manure rich in ammonia—the very thing which is most needed for the growth of wheat and other cereals. Mr. LAWES values the manure from a ton of peas at $13.38, and from a ton of oats at $7.40. The difference is due to the larger amount of nitrogen in the peas.

SPIRIT OF THE AGRICULTURAL PRESS.

Sowing Sorghum Seed.—A writer in the *Prairie Farmer* says, from experiments made last spring, he learned that the seed should be scalded before planting. One of the greatest difficulties in the cultivation of the cane, has been the fact that it required three or four weeks after planting before it was large enough to be readily distinguished from grass, during which time the weeds generally become so large as to render its cultivation difficult. This difficulty can be obviated in a great measure by scalding the seed with hot water, letting it stand in the water ten or twelve hours, then pour the water off and let it stand in a tight vessel in a warm place three or four days, till it has sprouted; then plant on newly prepared land, and it will come up as soon as corn, or some ten days sooner than it would if not scalded. It should be planted at the commencement of the corn-planting season, on very rich, warm land, a sandy soil, and should be well cultivated with the shovel, plow and hoe.

Natural Grape Trellis.—The *Farmer and Gardener*, says:—"While on a visit to West Chester, Pa., we observed in the garden of Mr. Jeffries a mode of training grape vines, which appeared to us worthy of note. A cedar tree, possessing a symmetrical form of branches, is selected, and when cut down, the branches are carefully preserved, thinning out the smaller twigs, but leaving the pyramidal shape prominent. This is used as a stake, and when covered with vines is highly ornamental, as well as forming a superior support for the grape. A row of them seen from a distance has the appearance of luxuriant tulip trees, or sycamore maples."

To Keep Butter Sweet.—A correspondent of the *American Agriculturist* gives the following directions for preserving butter in good condition for any length of time. In May or June, when butter is plenty, work it thoroughly two or three times, and add at the last working about one grain of saltpetre and a teaspoonful of pulverized loaf sugar to each pound of butter. Pack it tightly in stone jars to within two inches of the top, and fill the remaining space with strong brine. Cover the jars tightly, and bury them in the cellar bottom, where the butter will keep unhurt for a long time.

How Much Corn to the Hill.—A correspondent of the *Ohio Cultivator* states that he experimented with corn last year to determine the number of stalks for a hill. He planted rows with two, three, four and five kernels, and found no difference in the yield. That with two stalks was the heaviest and ripened the best.

Sowing Sorrel.—The N. H. *Journal of Agriculture* says "We have known a Yankee farmer to seed down newly burnt land, for pasture, entirely with sorrel seed, believing that sorrel would change to white clover—but the result proved the man was laboring under a great mistake."

Barley for Sheep.—A correspondent of the London *Mark Lane Express* thinks that his experience warrants him in asserting that barley fed to sheep is a preventive of the rot—a disease which, owing to the cold wet weather last fall, has been very fatal in England the past winter.

Burying Stones.—A correspondent of the *Country Gentleman* says that on two acres of his farm there were quite a number of large stones, which he got rid of by digging under them, and thus sinking them out of reach of the plow. He buried some "that could not have been taken from the field with three yoke of oxen. But one thing is very important in doing this work, and that is, be sure and dig the holes *large* and *deep* enough—especially for large stone—before tumbling them in, so that if they fall either side, or end up, they shall be out of reach of the plow, for it is very difficult to move them when in the hole. To bury very large stone, the hole should be dug partly under them, as it is much easier getting them into the hole—and they should be at least a foot below the surface when buried."

Drilling in Wheat Both Ways.—J. Edward Todd, in the *Ohio Farmer*, gives an account of a visit to the farm of the Hon. David Crocker, of Tompkins Co., N. Y., and says "Mr. C. thinks it a great improvement, when putting in seed wheat, to drill it in both ways, distributing half the amount of seed per acre—about one bushel—at each time. This practice distributes the seed more evenly over the entire ground, and at the same time deposits it in drills. I know, from my own experience, that this is a good way to put in oats, as this has been my practice; and I think it an improvement in putting in wheat, also."

Don't Raise Tobacco.—The editor of the Connecticut *Homestead* advises his readers, in view of war prices, to raise grain instead of tobacco. He says:—"Do persuade your neighbors not to plant any tobacco, and don't plant any yourself. 'Trust me,' said a farmer; 'for the last two years I have raised none, and now I have plenty of hay in the barn, my cattle are all in first rate order, and my mowings look fine. I don't want anything more to do with tobacco.'"

Java Wheat.—According to a correspondent of the *Country Gentleman*, this variety of spring wheat was introduced into this country in the following singular manner. A woman who was roasting some Java coffee found among it a grain of wheat, which she planted; saved the product and planted again, and so on for three years, when she distributed the seed among her friends, who all reported that it was an excellent variety.

Lime for Corn.—A correspondent of the *Ohio Farmer*, living near Akron, says he raised last year 2,000 bushels of corn from 20 acres. His method of culture is as follows:—"First plow the ground well, then top-dress with about thirty to thirty five bushels of lime to the acre; cultivate well before planting; plant with a horse-drill, middling deep."

Sheep as a Means of Improving our Farms.—"To pursue sheep husbandry most successfully," says the *Homestead*, "roots must be raised and fed; grain, either raised or bought will be consumed, and oil-meal will be purchased for food. This is better for the farm than the purchase of superphosphates or guano."

Raising Early Chickens in a Hot-Bed.—A writer in the *American Agriculturist* has raised two broods of fine early chickens, hatched January 17th and 20th, by keeping them for a season under glass, in an unused hot-bed.

MANAGEMENT OF HONEY BEES.

Size and Shape of Hives.—The best shape for a hive is nearly a square. After much study and many experiments in regard to the shape of them, I have come to the conclusion that if made twelve inches square in the clear and fourteen inches deep, they can not be improved in regard to shape. I refer to the lower section of hives, where the brood comb is made; taking it for granted that all bee-keepers of the present day have some kind of *supers*, or upper sections, in which the surplus honey is to be stored.

Hives of the above size contain 2,016 cubic inches, and it has been fully demonstrated that bees require as much space as that, in order to develop all the brood that the queen is able to produce. If they be made much larger than as above, swarming is diminished in the ratio of the increase of the size of the hives, till it is stopped altogether, as a general rule. For instance, suppose that a swarm of bees be hived in a barrel, probably it would not send off a single swarm if it were to remain there for ten years. True, it might perhaps, on some occasion send one off, as most rules in regard to bees have some exceptions. So, if hives are made to contain three, four or five thousand cubic inches, swarming will be diminished proportionately.

When honey-bees are hived in anything so large as to prevent them swarming, and remain therein for years, sending forth no increase, the same bees do not inhabit it from year to year, since the workers live but about nine months; and it follows that the tenants of each year are a new family, the old members of the previous year having all died, except the queen. Nor are bees in such hives able to store up any more surplus honey than those families that are in hives of the proper dimensions, and send off, perhaps, from one to three swarms annually, each worth four or five dollars. Thus it will readily be seen that it is not profitable to give bees hives so large as to prevent their swarming.

A hive containing 2,000 cubic inches is found to be as much space as the queen requires to deposit all her eggs, and if made of much less size, she has not sufficient space. Sometimes hives made a foot square in the clear do very well, but my experience and that of the most extensive apiarians in the country go to show that the larger size is best.

All inventors of hives do not give the same form to them, for the reason that some alleged improvement requires one shape, and some another; but aside from all "inventions," the bees will generally prosper better in hives nearly square, or rather longer than they are wide, because they are less exposed to the cold air of winter in such hives than those of a more shallow form. Independent of this consideration, I know of no reason why hives of a broader description are not equally as good, provided they contain about 2,000 cubic inches of space.

The best wood to use in constructing hives is pine, inch boards. The boards should be full thickness—not three-fourths of an inch, as half the pine boards are now sawed. Inch and a quarter pine planks would be still better, affording a greater degree of warmth in winter and coolness in summer; but I do not recommend the use of such planks generally, owing to the difficulty of obtaining them of the proper width in many places, and the extra weight and cost of the hives.

I will give directions to make a good, cheap hive—probably quite as good or better than nine-tenths of all the patent hives of the day.

Let it be made in two sections, the lower one to be twelve inches square *inside*, and fourteen inches long or deep. The top of this section should project over about an inch on all sides, to afford convenience to carry it, raise it from the stand, etc., when the bees are in it. Through this top or division between the lower and upper sections, there should be holes made with an inch and a quarter augur or bit, to allow the bees to pass up into the boxes in which the surplus honey is stored. The number of holes should correspond with the number of boxes used; say three to each box, but more would not do any harm nor any especial good. These holes should all be bored from a pattern, and the same number and same sized holes should also be bored in the bottoms of the caps, or surplus honey boxes, so that when placed in their proper positions they will connect with those made below.

These caps may be made to contain from five to twenty-five lbs. of honey. For family use merely, a single large cap, fourteen inches square on the outside, and from six to ten inches deep, would be better than several small boxes, on account of the less expense and less trouble in taking out the honey as wanted for use; but if the honey is wanted to sell in the market in any of our large cities, the boxes must be small, in order to have it command the highest price. I find that packages of about six lbs. are the best to send to the New York market, and the better the condition of these caps, the neater they are made and the cleaner they appear, the higher will be the price that the honey will command.

Over these caps, of course, an outer box or super is to go, made of the same material of which the lower section is constructed, and with the top board or roof projecting about an inch. Around the four sides of the top to the lower section, upon which this outer box is to rest, a space of one inch should be cut out with a carpenter's "plow" plane, to the depth of three-eighths of an inch, so that the top box will set down into the lowered space, and thus prevent the rains from beating under it and finding their way into the interior of the lower section of the hive. This cut also affords facility for keeping the box always in its proper place.

This is the month in which bees swarm at the North, and every one that issues in June will, if properly hived and has a fertile queen, prosper and become good stocks; but those that issue in July, especially after the 10th of the month, must be very strong in numbers, as they will be in danger of lacking a supply of honey for their winter's stores. If they issue in small swarms, they must be doubled, and even trebled frequently. I am aware that the inexperienced bee-keeper will often think that joining two or three swarms in one is a loss of anticipated increase, but it *must* be done, or greater loss will accrue in the end.

I will give full directions for joining weak swarms next month, which will be in season.

T. B. MINER.

Clinton, N. Y.

PRAIRIE STATE

The *Atlantic Monthly* for May contains a very readable sketch of Illinois—of its history, its agriculture, etc. We make a few extracts:

On the head-waters of the Wabash, near Lake Erie, we first meet with those grassy plains to which the early French explorers of the West gave the name of Prairies. In Southern Michigan, they become more frequent; in the State of Indiana, still more so; and when we arrive in Illinois, we find ourselves in the Prairie State proper, three-quarters of its territory being open meadow, or prairie. Southern Wisconsin is partly of this character, and, on crossing the Mississippi, most of the surface of both Iowa and Minnesota is also prairie.

The State of Illinois was originally part of Florida, and belonged to Spain. In 1667, Robert de la Salle made his celebrated explorations, in which he took possession of the territory of Illinois in behalf of the French crown. Of the native inhabitants, we have a delightful picture. Compared with their savage neighbors, the Illini seem to have been a favored people.

The climate was mild, and the soil so fertile as to afford liberal returns even to their rude husbandry; the rivers and lakes abounded in fish and fowl; the groves swarmed with deer and turkeys,—bustards the French called them, after the large gallinaceous bird which they remembered on the plains of Normandy; and the vast expanse of the prairies was blackened by herds of wild cattle, or buffaloes. The influence of this fair and fertile land seems to have been felt by its inhabitants. They came to meet Father Marquette, offering the calumet, brilliant with many-colored plumes, with the gracious greeting,—"How beautiful is the sun, O Frenchman, when thou comest to us! Thou shalt enter in peace all our dwellings." A very different reception from that offered by the stern savages of Jamestown and Plymouth to John Smith and Miles Standish! So, in peace and plenty, remained for many years this paradise in the prairies.

In 1712 Louis XIV. presented Louisiana, which included Illinois and Wisconsin, to Anthony Crozat, who spent vast sums upon it without any return, and in a few years surrendered his grant to the crown; and a trading company was formed, by the famous John Law, on the basis of these lands. This earliest of western land speculations was conducted on a scale of magnificence, in comparison with which our modern imitations of 1836 and 1856 were feeble in the extreme. A monument of it stood, not many years ago, upon the banks of the Mississippi in the ruins of Fort Chartres, which was built by Law when at the height of his fortune, at the cost of several millions of livres, and which toppled over into the river in a recent inundation.

In 1759 the French power in North America was broken forever by Wolfe, upon the Plains of Abraham; and in 1763, by the Treaty of Paris, all the French possessions upon this continent were ceded to England, and the territory of Illinois became part of the British empire.

At this time the French population of Illinois amounted to about three thousand persons, who were settled along the Mississippi and Illinois rivers, where their descendants remain to this day, preserving a well-defined national character in the midst of the great flood of Anglo-American immigration which rolls around them.

Illinois remained under British rule till the year 1778, when George Rogers Clarke, with four companies of Virginia Rangers, marched from Williamsburg, a distance of thirteen hundred miles, through a hostile wilderness, captured the British posts of Kaskaskia and Cahokia, and annexed a territory larger than Great Britain to the new Republic. Many of Colonel Clarke's rangers, pleased with the beauty and fertility of the country, settled in Illinois; but the Indians were so numerous and hostile, that the settlers were obliged to live in fortified stations, or block-houses, and the population remained very scanty for many years.

In 1818, Illinois, then having a population of about forty-five thousand, was admitted into the Union.

In 1824 the lead mines near Galena began to be worked to advantage, and thousands of persons from Southern Illinois and Missouri swarmed thither. The Illinoisans ran up the river in the spring, worked in the mines during the summer, and returned to their homes down the river in the autumn,—thus resembling in their migrations the fish so common in the Western waters, called the Sucker. It was also observed that great hordes of uncouth ruffians came up to the mines from Missouri, and it was therefore said that she had vomited forth all her worst population. Thenceforth the Missourians were called "Pukes," and the people of Illinois "Suckers."

From 1818 to 1830, the commerce of the State made but small progress. At this [illegible], there were one or two small steamboats upon the Illinois River, but most of the navigation was carried on in keel-boats. The village merchants were mere retailers; they purchased no produce, except a few skins and furs, and a little beeswax and honey. The farmers along the rivers did their own shipping,—building flat-boats, which, having loaded with corn, flour, and bacon, they would float down to New Orleans, which was the only market accessible to them. The voyage was long, tedious, and expensive, and when the farmer arrived, he found himself in a strange city, where all were combined against him, and often he was cheated out of his property,—returning on foot by a long and dangerous journey to a desolate farm, which had been neglected during his absence. Thus two crops were sometimes lost in taking one to market.

In those days justice was administered without much parade or ceremony. The judges held their courts mostly in log houses or in the bar-rooms of taverns, fitted up with a temporary bench for the judge, and chairs for the lawyers and jurors. At the first Circuit Court in Washington county, held by Judge John Reynolds, the sheriff, on opening the court, went out into the yard, and said to the people, "Boys, come in; our John is going to hold court." The judges were unwilling to decide questions of law, preferring to submit everything to the jury. A certain judge, being ambitious to show his learning, gave very pointed directions to the jury, but they could not agree on a verdict. The judge asked the cause of their difference, when the foreman answered with great simplicity,—"Why, Judge, this 'ere 's the difficulty: the jury wants to know whether that 'ar what you told us, when we went out, was r'aly the law, or whether it was on'y jist your notion."

In the spring of 1831, Black Hawk, a Sac chief, dissatisfied with the treaty by which his tribe had been removed across the Mississippi, recrossed the river at the head of three or four hundred warriors, and drove away the white settlers from his old lands near the mouth of the Rock River. This was considered an invasion of the State, and Governor Reynolds called for volunteers. Fifteen hundred men answered the summons, and the Indians were driven out. The next spring, however, Black Hawk returned with a larger force, and commenced hostilities by killing some settlers on Indian Creek, not far from Ottawa. A large force of volunteers was again called out, but in the first encounter the whites were beaten, which success encouraged the Sacs and Foxes so much that they spread themselves over the whole of the country between the Mississippi and the Lake, and kept up a desultory warfare for three or four months against the volunteer troops. About the middle of July, a body of volunteers under General Henry of Illinois pursued the Indians into Wisconsin, and by forced marches brought them to action near the Mississippi, before the United States troops, under General Atkinson, could come up. The Indians fought desperately, but were unable to stand long before the courage and superior numbers of the whites. They escaped across the river with the loss of nearly three hundred, killed in the action, or drowned in the retreat. The loss of the Illinois volunteers was about thirty, killed and wounded.

This defeat entirely broke the power of the Sacs and Foxes, and they sued for peace. Black Hawk and some of his head men, were taken prisoners, and kept in confinement for several months, when, after a tour through the country, to show them the numbers and power of the whites, they were set at liberty on the west side of the Mississippi. In 1840 Black Hawk died, at the age of 80

years, on the banks of the great river which he loved so well.

After the Black-Hawk War, the Indian title being extinguished, and the country open to settlers, Northern Illinois attracted great attention, and increased wonderfully in wealth and population.

In 1830, the population of the State amounted to 157,445; in 1840, to 476,183; in 1850, to 851,470; in 1860, to 1,719,496.

The State of Illinois forms the lower part of that slope which embraces the greater part of Indiana, and of which Lake Michigan, with its shores, forms the upper part. At the lowest part of this slope, and of the State, is the city of Cairo, situated about 350 feet above the level of the Gulf of Mexico, at the confluence of the Ohio and the Mississippi; hence, the highest place in Illinois being only 800 feet above the level of the sea, it will appear that the whole State, though containing several hilly sections, is a pretty level plain, being, with the exception of Delaware and Louisiana, the flattest country in the Union.

As to the quality of the soil, Illinois is divided as follows:—

First, the alluvial land on the margins of the rivers, and extending back from half a mile to six or eight miles. This soil is of extraordinary fertility, and, wherever it is elevated, makes the best farming land in the State. Where it is low, and exposed to inundations, it is very unsafe to attempt its cultivation. The most extensive tract of this kind is the so-called American Bottom, which received this name when it was the western boundary of the United States. It extends from the junction of the Kaskaskia and Mississippi, along the latter, to the mouth of the Missouri, containing about 288,000 acres.

Secondly, the table-land, fifty to a hundred feet higher than the alluvial; it consists principally of prairies, which, according to their respectively higher or lower situations, are either dry or marshy.

Thirdly, the hilly sections of the State, which, consisting alternately of wood and prairie, are not, on the whole, as fertile as either the alluvial or the table-land.

There are no mountains in Illinois; but in the southern as well as the northern part, there are a few hills. Near the banks of the principal rivers the ground is elevated into bluffs, on which may be still found the traces left by water, which was evidently once much higher than it now is; whence it is inferred, that, where the fertile plains of Illinois now extend, there must once have been a vast sheet of water, the mud deposited by which formed the soil, thus accounting for the great fertility of the prairies.

Illinois contains probably more coal than any other State in the Union. It is mined at a small depth below the surface, and crops out upon the banks of most of the streams in the middle of the State.

Illinois has an average temperature, which, if compared with that of Europe, corresponds to that of Middle Germany; its winters are more severe than those of Copenhagen, and its summers as warm as those of Milan or Palermo. Compared with other States of the Union, Northern Illinois possesses a temperature similar to that of Southern New York, while the temperature of Southern Illinois will not differ much from that of Kentucky or Virginia.

There are on an average eighty-nine rainy days in the year; the quantity of rain falling amounts to forty-two inches,—the smallest amount being in January, and the largest in June.

The early travellers in this region mention the great herds of wild cattle which roamed over the prairies in those times, but the last Buffalo on the east side of the Mississippi was killed in 1832; and now the hunter who would see this noble game must travel some hundreds of miles west, to the head-waters of the Kansas or the Platte. The Elk, which was once so common in Illinois, has also receded before the white man, and the Deer is fast following his congener. On the great prairies south of Chicago, where, fifteen years ago, one might find twenty deer in a day's tramp, not one is now to be seen.

Of the gallinaceous birds, the Turkey, which is found in the heavy timber in the river bottoms; the Quail, which has become very abundant all over the State, within twenty years, following, it would seem, the march of civilization and settlement; the Ruffed Grouse, abundant in the timber, but never seen on the prairie; the Pinnated Grouse, or Prairie Hen, always found on the open plains. These birds increased very much in number after the settlement of the State, owing probably to the increase of food for them, and the decrease of their natural enemies, the prairie wolves; but since the building of railroads, so many are killed to supply the demands of New York and other Eastern cities, that they are now decreasing very rapidly, and in a very few years the sportsman will have to cross the Mississippi to find a pack of grouse. The Sharp-tailed Grouse, an occasional visitor in winter from Wisconsin, is found in the timbered country.

Of Frogs, one is mentioned (*Rana pipiens*) nearly two feet long, and loud-voiced in proportion—a Bull-frog, indeed!

If any State in the Union is adapted to agriculture, and the various branches of rural economy, such as stock-raising, wool-growing, or fruit-culture, it surely must be Illinois, where the fertile natural meadows invite the plow, without the tedious process of clearing off timber, which, in many parts of the country, makes it the labor of a lifetime to bring a farm under good cultivation. Here, the farmer who is satisfied with such crops as fifty bushels of corn to the acre, eighteen of wheat, or one hundred of potatoes, has nothing to do but to plow, sow and reap; no manure, and but little attention, being necessary to secure a yield like this. Hence a man of very small means can soon become independent on the prairies. If, however, one is ambitious of raising good crops, and doing the best he can with his land, let him manure liberally and cultivate diligently; nowhere will land pay for good treatment better than here.

Of the large-acred men of Illinois, mention is made as follows:

"Winstead Davis came to Jonesboro', Illinois, from Tennessee, thirty years ago, without means of any kind; now owns many thousand acres of land, and has under cultivation, this year, from 2,500 to 3,000 acres."

"W. Willard, native of Vermont, commenced penniless; now owns more than 10,000 acres of land, and cultivates 2,000."

"Jesse Funk, near Bloomington, Illinois, began the world thirty years ago, at rail-splitting, at twenty-five cents the hundred. He bought land, and raised cattle; kept increasing his lands and herds, till he now owns 7,000 acres of land, and sells over $40,000 worth of cattle and hogs annually."

"Isaac Funk, brother of the above, began in the same way, at the same time. He has gone ahead of Jesse; for *he* owns 27,000 acres of land, has 4,000 in cultivation, and his last year's sales of cattle amounted to $65,000."

It is evident that the brothers Funk are men of administrative talent; they would have made a figure in Wall street, could have filled cabinet office at Washington, or, perhaps, could even have "kept a hotel."

Although the soil and climate of Illinois are well adapted to fruit-culture, yet, from various causes, it has not till lately been much attended to. The early settlers of Southern and Middle Illinois were mostly of the Virginia race, Hoosiers,—who are a people of few wants. If they have hog-meat and hominy, whisky and tobacco, they are content; they will not trouble themselves to plant fruit trees. The early settlers in the North were, generally very poor men; they could not afford to buy fruit trees, for the produce of which they must wait several years. Wheat, corn and hogs were the articles which could be soonest converted into money, and those they raised. Then the early attempts at raising fruit were not very successful. The trees were brought from the East, and were either spoiled by the way, or were unsuited to this region. But the great difficulty has been the want of drainage. Fruit trees can not be healthy with wet feet for several months of the year, and this they are exposed to on these level lands. With proper tile-draining, so that the soil shall be dry and mellow early in the spring, we think that the apple, the pear, the plum and the cherry will succeed on the prairies anywhere in Illinois. The peach and the grape flourish in the Southern part of the State, already, with very little care; in St. Clair county, the culture of the latter has been carried on by the Germans for many years, and the average yield of Catawba wine has been two hundred gallons per acre. The strawberry grows wild all over the State, both in the timber and the prairie; and the cultivated varieties give very fine crops. All the small fruits do well here, and the melon family find in

this soil their true home; they are raised by the acre, and sold by the wagon-load, in the neighborhood of Chicago.

Stock-raising is undoubtedly the most profitable kind of farming on the prairies. * * * In fact, Illinois is the paradise of cattle, and there is no sight more beautiful, in its way, than one of those vast natural meadows in June, dotted with the red and white cattle, standing belly-deep in rich grass and gay-colored flowers, and almost too fat and lazy to whisk away the flies. Even in winter they look comfortable, in their sheltered barn-yard, surrounded by huge stacks of hay or long ranges of corn-cribs, chewing the cud of contentment, and untroubled with any thought of the inevitable journey to Brighton.

PRIZES FOR SHEEP AT THE N. Y. STATE FAIR.

Eds. Genesee Farmer:—I have before (privately) communicated to you my opinion that some change should be made in the mode of awarding premiums at the State Fair, which should induce the breeders of the best sheep in the State to the show. I speak particularly of fine wool sheep, for there is generally a good show of long wool, or mutton sheep. I think it would be better to have but one class of that breed. Meat is the primary object of raising this breed—wool a secondary object—both together making the value of the sheep. That race which will produce the greatest value of meat at the same expense, should be encouraged by premiums. The difference in the value of wool produced is not sufficient to greatly increase the value of the sheep. My object in calling your attention to this subject, is not so much on account of the effect produced by the present system of awarding premiums on mutton sheep, as the effect it has on fine. Wool is the primary object of breeding fine wool sheep—meat a secondary object. Wool and meat make the value of these sheep. The meat of fine wool sheep has a much greater relative value to the wool in this class, than wool to meat in the other.

The N. Y. State Society have offered $408 premiums to encourage the improvement of mutton sheep, and divided them into four classes. There were $510 offered as premiums on fine wool sheep, and these divided into five classes of $102 (cash) to each race. Should the question (which is the best breed of fine wool sheep?) be put to every wool-grower in the United States, 99-100 would be in favor of the pure Spanish merinos. The Society have offered $10 for the best buck of that breed, $8 for the second, and $5 for the third. There are at least fifty flocks claimed to be pure blooded Spanish merinos. There is a prize of $10 for fifty competitors to contend for, with the privilege of $8 if they come within one degree of the first. It will cost at least $10 to take a buck to the Fair. It is not certain he will get the award of the first premium even if his sheep should be the best, for the best of judges may err. It is well known if any man takes stock to the Fair and gets no premium, his stock is disgraced. What intelligent man would pay even one dollar for a ticket in a lottery that had even but forty blanks to one prize? The chance for the owner of a French merino is much better, as there appeared but *one competitor* in that class. The breeders of Saxony and their crosses are quite sure to draw a prize; for very few wool-growers are willing to publish to the world that their flocks are of the Saxon breed. The owner of the Selicians is more fortunate, as one man bears off all the prizes, except two small ones, amounting to $92. If the Society should put all fine wool sheep into one class, where the competition for the best fine wool sheep, whether it be from France, Saxony, Silicia or Spain, it would open a wide field for competition. Let the first premium for the best buck be $20, the second best $18, so falling down $2 each grade to $6,—or from $8 to $4,—that would equal the whole amount offered to one whole class, as now arranged. Let there be a like premium offered for the best five ewes; a like sum for the best pen of 20 ewes; a like sum for the best pen of 20 ewe lambs, or the Committee would divide into less in number, and make a class of ewes two years old and upward, and another under, as they should think best. The details of this plan I should not be particular about. I would have but one class of fine wool sheep. With the offer of $500, a wide field would be opened for an honorable strife for the mastery. I throw out these suggestions for the consideration of those who have the welfare of the wool-grower and farmer at large committed to their charge.

Manchester, Vt. J. S. PETTIBONE.

WHEAT CULTURE IN THE WEST.

The *Valley Farmer*, published at St. Louis, in an article on the "grain crops of the Northwestern States," estimates the produce of wheat for last year as follows: Illinois, 26,000,000 bushels: Indiana, 18,000,000; Wisconsin, 17,000,000; Iowa, 14,000,000; Minnesota, 5,000,000; Michigan, 8,000,000; Ohio, 25,000,000; or an aggregate in these seven great wheat growing States of 118,000,000 bushels. He there states there are 8,000 miles of railroad, which secures to the farmers a market for their surplus grain, and a price within a few cents per bushel of the highest market value of wheat in the great Atlantic seaports. The intelligent editor of the *Farmer*, who is familiar with the agriculture of the West and of this section, remarks:

"The consideration of these facts suggests some important points worthy of the attention of the farmers of the West. Notwithstanding the extraordinary richness of the soils of these States, it is well known that the average product per acre of wheat falls considerably short of the average yield per acre of the old wheat growing sections of the Genesee valley, in the State of New York, and vastly short of the crop per acre of Great Britain, which has been subject to the plow for many centuries. Now it is a question of the first importance, in an economical point of view, How much is it possible to increase the arcable product of these lands by an improved system of cultivation? From our own observation, we feel warranted in saying that the cost per acre of preparing the ground and growing a crop of wheat in Western New York is nearly or quite double that of the amount expended per acre in these Western States. Not that the labor is more expensive, but that there is more of it bestowed in giving the proper preparation of the soil to produce the crop.

"When the West was first settled, and until

within a few years, when our present system of railroad communication was established, there was no market for wheat beyond the immediate demands of the neighborhoood, hence but little labor and care were bestowed in preparing the land and in securing the crop. This state of things established a habit of loose and careless cultivation that our farmers of the present day have not forgotten, and there are few of them who could now be convinced, short of actual experiment, how much their crops could be increased by means entirely at their command. The introduction of improved implements of husbandry has done much to aid the farmer, both as it regards the perfection of the work and the economy of labor, yet there is still room for vast improvement.

"The cause of the greatest injury to the Western wheat crop is from the excess of water in the soil during winter and early spring. The country is generally flat, and the sub-soil compact and almost impervious; this causes an excess of water to remain near the surface, and the freezing and thawing that goes on through three or four months of the year, with the constant alternation of heat and cold, injures or entirely kills a large portion of the wheat that is sown. There is no land so cheaply and so easily drained as that of these States, which may be done generally by the use of the mole plow. This method of draining, it is true, is not the most perfect nor the most permanent, yet it will answer the purpose, at least for a time, and until time and means will admit of the employment of a more thorough and permanent method.

"There are limits within which the amount of labor to be expended upon an acre of wheat or corn must be confined, in order to secure the greatest amount of clear profit; but that limit, if judiciously bestowed, has not been reached, and in the culture of corn has hardly been approached. But in the culture of corn a very little extra labor, if properly employed and at the right time, would add immensely to the aggregate of the corn crop."

CHANGE OF SOIL, AND CHANGING SEEDS.

It is the general practice to extol the beneficial effects arising from using seed wheat that has been grown at some distance, when — which is not always — benefit really accrues, to the mere change of seed, more than anything else. Indeed, so little is the *modus operandi* by which improvement is produced, considered, that all the explanation we get of the matter, usually, is, that "seed does better changed from one part of the country to another" Now, according to my views—which are the result of thirty years' experience, in various circumstances, in wheat culture—a mere change of seed, unless other conditions also are *different*, has very little if any necessarily beneficial effect on the resultant product of the crop. Still, I hold that seed should be procured from other localities, or changed, because by this course tendencies not desirable, of any kind, may be materially checked or corrected by conditions whose influence is toward a different effect.

In the *Prairie Farmer* of March 7, Dr. N. W. Abbot says he "got 3½ bushels of wheat per acre more by procuring seed, of the club variety, from Iowa, last season." But whether there was a change of *soil* in this case, we are not informed by him. I judge, however, there must have been, because a mere change of seed, of itself, from one locality to another, where the soil and climate are essentially the *same*, affords no apparent reason for advantage. For instance, suppose seed be changed from white oak loam — probably the best wheat soil we have — in Canada West, to the same quality of soil in New York: is there anything of the nature of real change, other than that of the difference of latitude or longitude involved in the process? I trow not. If the soil be the same naturally and in fertility, I contend that no more benefit necessarily follows a change of three hundred than of only three miles, more or less, in distance. For the same quality of soil, in the same season, with similar weather and climate, can not readily be supposed to produce essentially different effects and transmissible qualities in the same sort of grain. It may be earlier or later, heavier or lighter, &c., but its essential or vital characteristics will be quite similar or nearly identical. If, therefore, benefits result, as there are good reasons to believe is the case, they flow from some other causes, *more* influential though closely connected, besides the change of seed alone, whether from far or near.

It has been abundantly proved by the experience of farmers, past and present, that change is often beneficial; and sometimes it is not only no benefit, but an injury. This I have seen illustrated in abundant instances. And such facts seem to confirm the view that it is not a change of seed only that is necessary, but that there must be, moreover, a change of soil, as an indispensable condition to improvement. Let us briefly note a few facts which seem to exhibit the reason why this must be so.

When wheat is grown on soils essentially different in texture and composition, the nature of the soil affects the quality of the wheat, in all parts and characteristics of its structure, produced on such different qualities of land. On peaty and mucky soils, for instance—if in tolerable condition as to fertility, or ability to bear a full crop — the straw will be larger, softer, more flexible, and much more liable to lodge, in consequence of the comparative scarcity of silica in its various forms; and the ears will not fill so well, nor will the berry be so plump, or the yield, in proportion to straw, &c., so good as where the straw is stiff, and the crop stands up even and well. Much of the prairie land of the west, from its deficiency in silica, produces crops with such characteristics. On the other hand, sands and gravelly soils and sandy loams have an abundance of silica, and their crops generally stand up and fill well, though the heads are not always large, the soil not being rich enough to do much work, and do it well, too. It sometimes is also the fact that soils with ample silica are defective as to lime, which is a prime essential of wheat culture, and with which a good share of western prairie soils are well provided.

I shall consider then, that within my observation, as a general rule, soils that abound in silica are deficient in lime, and that mucky soils usually have too little of silica. Strong loams have a fair proportionate supply of both silica and lime, and

may be properly considered the best wheat soils, as they produce the best timber — white oak — also, they comprehend all the necessary qualities, are representative, as it were.

If we change seed from a mucky prairie in Illinois to a like quality of land in Wisconsin or Michigan, of what avail will it be? or what defect or tendency will it correct? If wheat has been grown four or five seasons on such a soil, the tendency to produce weak straw, and to lodge, rust, shrink, &c., will be strengthened and gradually increased, as is true of quality in animals; for the influences which impart, transmit and augment present defects, remain in active operation. I argue, therefore, that a change of longitude or latitude merely, from any kind of soil to a similar one, is *no change essentially*, but a mere transfer from like to like.

Again: If we bring seed from a fertile prairie soil, with a bare sufficiency of silica but an abundance of lime, and sow it on a sandy loam, where lime is more scarce than it was in the mucky land, can we expect any benefit? I see not why we should; for we relinquish the *more* essential ingredient (lime,) for one (sand) *less* urgently required in the formation and production of the seed-berry, the most essential part of the product. To procure seed from mucky soils with ample lime, to plant on soils deficient in this alkali, can not result in any benefit, therefore, as I view it. For the seed so transferred comes into less instead of more favorable conditions, — has more of the *less important* silica to perfect its *straw*, but *less* and not enough usually, of the *more necessary* lime, magnesia, and cognates, to perfect its more vital and valuable seed.

Some of the conclusions I arrive at may be roughly stated as follows: — Our strong loams — white oak lands being their type — are the most complete wheat soils, supplying all the necessary conditions for a perfect product, which will tend to re-produce itself if not checked by adverse conditions. But a comparatively defective soil, either as to lime, sand, the phosphates, or otherwise, would check this tendency. A change from such a soil to loamy or mucky land could be no advantage, but the contrary; therefore, a change of seed from rich prairie to light loam soil can secure no good result, because the more important lime is not present, however silica may abound.

On the other hand, if there be an important *improvement* of conditions to the seed, in the change of *soil*, — as for instance, from a sandy loam, deficient in lime, to black limestone prairie, — the less vital silica of the former will be greatly overbalanced by the advantage of sufficient lime, and its compounds, for the production of prime seed-heads.

A change of *soil*, from either light vegetable mold or thin sandy soil to a strong loam — not the contrary — is a good change, because the seed goes from comparatively defective to more generally complete conditions of full growth and maturity, either as to straw or berry. Usually there can, I believe, be no advantage — and I have seen these conclusions practically tested in various instances — in changing from a soil rich in lime to one defective as to this ingredient. But the opposite of this, as I have often seen, is a good change. From lighter to stronger soils of the same general composition — *not* the contrary — is a good change. Generally, a transfer of seed from sandy to mucky soils — *not* the contrary — is productive of decided benefit to the product. On the best strong loam wheat soils, the tendency to improve is itself checked, in some instances probably because the best conditions and most perfect product have been nearly attained, or from a long uniformity of conditions causing the habits of the plant to become comparatively "fixed" and difficult to change in any direction; in which cases, and others that I have not space to particularize, seed from any lighter and less complete soil — the reverse being impracticable — can usually be used with considerable advantage; and an important general rule, in procuring seed for the sake of improvement, will be seen to be, to transfer to soils that are less defective, in lime or otherwise: in brief, to change to more complete conditions of growth and perfection, when improvement may, from the law of like cause like consequence, be reasonably anticipated.

Wisconsin, May 1861. J. N. CLARKE.

SOILING CATTLE.

Eds. Genesee Farmer:—This subject is becoming one of especial interest to farmers, and more particularly to those who own small farms, and are under the necessity of economizing in a rigid degree, in order to support their families.

The principle and economy in soiling is this: a half an acre of land can easily be made to furnish green food for a cow or a horse during the season, till it becomes necessary to commence with winter feed in December, while it requires from an acre and a half to two acres of pasture to keep the same animal the same length of time. Besides this great saving of land, the manure of each animal soiled is worth the interest on two acres of land at $50 per acre, over what it would be on the common pasturage system. To offset a portion of this advantage, we must take into the account the labor that it requires to cut the green fodder and feed it out daily; and yet I am inclined to believe that this labor is no more than a fair equivalent for the saving of time in driving stock to pasture, and keeping the fences in a condition far more expensive than the soiling system requires. Indeed, on this system, fences may be dispensed with altogether, except the farm enclosure and roadsides.

Fencing materials are now becoming an item of great expense to all farmers, not only in the materials themselves, but also in the labor of building the fences and keeping them in good repair. Moreover, the waste land that fences occupy (which is very considerable), on the soiling system may all be cultivated—an item of considerable importance on small farms, where the land is divided into small fields.

To adopt this system with the best results, the land from which the green fodder is to come should be adjoining the barn, level and very fertile; and with the abundance of manure that is secured by soiling, there is no difficulty in making the land rich and productive.

The best article for soiling is clover, and next to this are corn sown either in drills or broadcast, oats, millet, rye, sugar cane (sorghum), barley, Hungarian grass, and any variety of grass that grows tall and luxuriant which is relished by stock.

Sweet corn is the best to sow for soiling. I have used a kind called "Darlings prolific," which is

well adapted to this purpose on account of its thrifty growth and its tendency to *tiller*, or throw out numerous suckers. It may be sown at any time from May 15th to July. It is best to sow it in drills about 18 inches apart with a seed sower.

Cattle are kept in much better condition by soiling them. They are often turned out to pasture too early in the spring, before the grass is sufficiently grown to afford them enough to satisfy their hunger, and if there happens to be an early drouth they can not thrive, and they will hardly get over the effects of a bad winter's keep before they enter upon another. On the soiling system, a drouth does not seriously affect the stock, as their supply of fodder is always green, succulent and abundant.

Independent of all the considerations of economy that I have named, cows give much more milk when soiled, and yield it more regularly than when pastured; and the waste of time, and the worrying of cows in driving them to distant fields in warm weather, are avoided. What can be more injurious to a noble cow than to send an unfeeling boy to drive her a half a mile to pasture every day during the summer, with the thermometer often up to 90°, while, perhaps, she is worried by a dog, or pounded with a club, because she does not happen to suit in her gait, or otherwise, her driver? Milk, when thus heated by improper driving of cows, does not produce as much cream as it does under other circumstances, which is a good argument in favor of the soiling system. Butter made from the milk of soiled cows does not have that oily appearance which is so often the case in warm weather, when cows are driven to and from their pasture. Nor is there any difficulty in butter "coming" in the warmest weather, when soiled.

A farmer in Waltham, Mass., is said to have made last season 389 lbs. of butter, from the milk of four cows, in thirteen weeks, fed on green fodder—chiefly grass, and corn sowed broadcast. The cows were not out of the barnyard during that time. Two of the animals were heifers only two years old, which had calves in the spring, and the whole of the milk of one of them was taken by her calf durjng six weeks out of the thirteen, and some of the milk of the other was used in the family; from which circumstances it may be said that the four cows should not be rated at more than three ordinary ones.

A yard should be connected with the barn, of a size proportionate to the number of cattle soiled. For a half a dozen cows, about a quarter of an acre is necessary, so that the weaker ones may not be annoyed by those that are stronger and more pugnacious. They should have an open shed to lie under in stormy weather during summer, and in November they should be housed in their stalls at night.

On this system of feeding, large quantities of roots can be fed to advantage. Indeed, let no man think that he can derive the greatest possible profit from his live stock who does not grow root crops abundantly. Roots are the key to all successful farming in England, and they are almost as important here as they are there. Carrots stand at the head of the list here, but turnips are more grown in England, as the climate is better adapted to their growth than ours is. Every milch cow should be fed a half a bushel of carrots, at least, daily, from November to June, or some other equivalent root that does not affect the milk.

T. B. MINER.

Clinton, N. Y.

MANAGEMENT OF POULTRY.

EDS. GEN. FARMER:—As in the management of milch cows, so with poultry, it is as necessary to feed and to quarter them, and to care for and to select your stock with judgment. An ordinary breed of fowls well housed and well fed, will be of more profit to their owner than the like number of neglected and forlorn biddies who came of the best laying tribes.

It becomes us, therefore, to provide houses for our poultry, convenient for their habits, and convenient also for our own—for if attendance on any kind of stock occasions too much trouble, they are very apt to be neglected. In building, therefore, let the house be handy for the hens, and as handy for those who have charge as possible; and of the two we would say, in preference, make it handy for feeding and for cleaning, warming and ventilation, as the occasion for each comes around.

Let their feeding hoppers and water fountains be in the building, or they may occasionally lose a meal when you are too tired to go after it. Let the facilities for cleaning their apartments be always at hand, or the atmosphere of their dormitory may chance to be overcharged with ammonia. For the same reason, let your windows or ventilators work easily; and by all means whitewash the interior of the house, roosts, nests and all.

The principal considerations of a poultry house are warmth, light and ventilation. Warm in winter, because fowls will require less food, will be healthier, and will lay more eggs. Ventilated in summer and in mild weather, because fresh air is absolutely essential to all animals.

It is well known that hens are modest birds, and seek seclusion and privacy while the symptoms of approaching egg-labor are strong upon them. It is thought by many that the production of eggs is like the yielding of milk in a cow, somewhat under the control of the creature; so it becomes us to add every inducement to stimulate the instincts of nature, and coax a fowl to prolificacy by consulting its tastes and whims and making the nests as secret as possible.

It has been asserted that with the exception of prime cows, there is not on the farm a single animal or vegetable that according to the value of the original investment and labor production that yields as much clear profit as will come from the poultry yard, if properly attended to.

The mere fact of poultry being kept as a part of farming stock is at once an admission of its necessity. To the man who is content to cultivate his land and keep the class of stock as in days gone by, little can be said, but a suggestion to the improving farmer may not be cast away.

Although farmers are told on all hands that they have neglected a very profitable part of their stock, they hardly seem to have got many useful hints as to their most profitable kinds and most profitable keeping.

As to the number of fowls to be most profitably kept on a farm, we think about fifty to the hundred acres sufficient. If more are kept, the extra

feed they require will tell upon the profits, except near a market where the profits are high. The number we have mentioned, if allowed their liberty (except during garden making and harvest), will pick up sufficient food to keep them in good condition with but little extra keep. But they should not be left entirely to chance for their food; they should be fed regularly twice each day. The food we found most profitable was corn, oats, and the refuse screenings of the fan-mill, when mixed four quarts to fifty fowls each day while they had their liberty. Besides which, we would advise to have a box or trough so made that they could not get into it with their feet, which should be filled every morning with boiled potatoes mashed and mixed with shorts or wheat bran. With this keep they will lay well, and always be in good condition for the table.

In the number of fowls we have mentioned for one hundred acres there should be four cocks. About forty or fifty chickens should be reared, and never more than one hundred, as the extra feeding of so many chickens becomes a serious business on a farm. The cocks will be first ready for killing, and they should all be killed during the first season. Four months is long enough for any early cockerel to exist that is destined for the cook; if a late bird, and consequently of slower growth, add another month to his life, but let him not, under any circumstances exceed the sixth. He is killed then with the most profit, whether for our own consumption or for sale. Pullets will usually be ready from three months till they are about to lay. Here observe the quick returns; and surely it will be admitted that no other breed of fowls can rival the Cochin or Brahma breed in this particular. The old hens (except those which are particularly good sitters and good mothers), should be killed before they are three years old, as after that they are almost worthless.

With the management we have mentioned, the owner of a few dozen Spanish and a few Asiatic fowls for winter layers and nurses, will always have plenty of eggs to sell, and no scarcity of good chickens.

We may state in conclusion, that our opinion in favor of the kinds of poultry we have recommended is founded on experience of their good qualities. In fact, after trying various kinds, we have chosen them as the good lady of the Vicar of Wakefield chose her gown, "not so much for looks as for usefulness and economy." C. N. BEMENT.

New York, May, 1861.

IS IT PROFITABLE?

Is it profitable to raise grain for export, and rob the soil, making it no return, till the crop ceases to pay expenses of seed and cultivation?

Is it profitable to mow over two, three or four acres for a ton of hay, when two, three, or four tons may be obtained from one acre, with no more labor, by better cultivation?

Is it profitable to keep one hundred sheep that will shear one or two pounds of poor wool a head, when fifty or even twenty-five sheep may be bought for the price of the one hundred, that will yield more and better wool than can be sheared from the larger number?

Is it profitable to keep swine till they are two years old, to make 300 to 400 pound porkers, when better pork of the same weight can be made at less cost from pigs ten months old?

Is it profitable to keep ordinary cattle, when, by a little expense and trouble in the matter of blood, animals may be obtained of double their value?

Is it profitable to work with poor tools or antediluvian implements, when the value of better ones may be saved in their use for a single year?

Is it profitable to plant *poor seed*, because it can be bought *cheap*, and lose in the crop thrice what the best seed would have cost?

Is it profitable to buy land and pay taxes on it, and only half cultivate it, if you can get a half crop for full seed and half labor?

Is it profitable to till only six inches of the surface until it is worn out, when your soil extends to a greater depth?

Is it profitable to keep an orchard of "cider" apples, when the Kings or Baldwins that would grow on these trees in ten years after grafting will pay ten fold the cost of renovating the orchard and making it perpetually produce valuable fruit?

This batch of queries will suffice for once; so I will close by asking, Is it profitable to *save* fifty cents, and cheat yourself and family out of the valuable facts and queries, essays and *theories*, presented in the *Genesee Farmer* for a year?

Attica, N. Y., May, 1861. ‡‡ L. S. ‡‡

NOTES FROM CANADA WEST.

Eds. Genesee Farmer:—I have waited a month, hoping to report an improvement in the appearance of winter wheat in this locality, but it has been getting worse instead of better. The snow left the ground bare in latter part of February; it was then exposed to one week's severe freezing in March, the mercury being frequently 20° below zero. The consequence is that not one acre in fifty is worth leaving, and were it not for the lateness of the season and the scarcity of hay, with very many it would be plowed up and sowed with spring wheat. I intend to do so with all my own, and I find others are already plowing theirs. A very large breadth of land will be sown with wheat this spring. We think here that you can not work and fight too, and *if* you do the latter, you will not have much grain for exportation, and the immense surplus now on hand will be used up.

This is the most backward season we have had since 1857. It has been too wet even to plow, and the frost this week has been severe. The grass has scarcely made a start yet.

There is a very good prospect for fruit again this year. Some trees are very full of fruit buds, just ready to burst open.

Hungarian Grass.—On account of the clover being so injured this spring, very many are preparing to try Hungarian grass as a substitute. A farmer near here sowed, in the first of June last year, one bushel of seed on three acres of land, from which, he says, he cut about twelve tons of hay, and thrashed nearly one hundred bushels of seed. If this is correct, and if it proves healthy food for horses, cattle, &c., surely it must pay better than mowing twelve acres of meadow for the same amount of hay, minus the seed. But it must be very hard on the land when left to ripen the

seed, and unlike clover, it does not supply any nutriment to the soil when plowed after a crop, unless it should grow up from the stubble and be plowed under. Having had but little experience from its use, I can not speak of its merits. Will some of your correspondents do so? R. W. S.

Woodstock, C. W., May, 1861.

REPORT ON SWINE.

We are indebted to Sanford Howard, Esq., for the Transactions of the Norfolk (Mass.) Agricultural Society for 1860. We make a few extracts from the report of the Committee on Swine:

The hog is a grave animal. Your committee are grave men, and the subject of *pork* is a solemn subject; and in these alarming times, when the olive tree in Europe and the sperm whale in the ocean are becoming scarce, and our whalers are getting lazy or discouraged, and we are likely to be deprived of all such *oleaginous* material, there is much in the hog to interest mankind—much *matter*, which judiciously used and fairly *tried*, will pour a flood of light on a benighted world.

In tender infancy, the *pig* is regarded with kindness, and deservedly receives many marks of affection. Indeed this can hardly be otherwise, there is so much about him to win our confidence and elicit our admiration. Look at him while still requiring the care and protection of his maternal parent, and rapidly ripening for the spit. Is there an object in nature or art more beautiful or interesting? His countenance how expressive! his features how striking! His figure how plump and transparent! The twinkle of his eye how roguish! The flexibility of his *snout* how wonderful!

The young *pig* is a type of innocence and happiness. His voice is penetrating and highly musical—insomuch that the chromatic scale in music took its rise from the melodious sounds which proceeded from the glottis of this interesting quadruped, when impatient for his food. And it is an undoubted fact that *Hog*-arth adopted the curvilinear line of beauty, after studying the light and graceful twist in the tail of a frisky young *porker!*

As the *pig* grows older he becomes more sedate. He loses the delicacy of his proportions and the simplicity of his manners. He is no longer diffident and deferential. The graceful kink in his tail in most cases disappears, and the matured *hog*, with a long head, an indication of wisdom, and a voice ranging from the deepest bass to the highest treble, stands revealed in all his dignity and grandeur!

That the hog has some weaknesses, your Committee are prepared to admit, but they are more than counterbalanced by his virtues. In Cincinnati, and other *pork* cities of the west, the noble qualities of the *hog* are acknowledged. The people have studied his character, bear witness to his worth, and almost identify him with the human species. It is even said that the children in Cincinnati learn to *squeal* before they begin to talk; and one of the editors, when the question of prohibiting hogs from perambulating the streets was brought before the City Council, manifested great indignation. "It is," said he, "a violation of our dearest *personal* privileges."

A learned pundit has happily remarked, that if brains be the measure of intellect, as phrenologists assert, a hog must be the wisest of created animals, for the smallest and most insignificant of the race can boast of a *hogs-head* full of brains, at the very least! And this may be the reason why Martin Luther, the reformer, whenever he was troubled with a "fit of the blues," would rush out among the pigs, and hold with those intellectual animals, on his part, a *silent* conversation. Their happy countenances, vocal rejoicings, and good-natured grunts, excercised a soothing influence on the spirits of this learned theologian, and soon restored his mind to its wonted vigor.

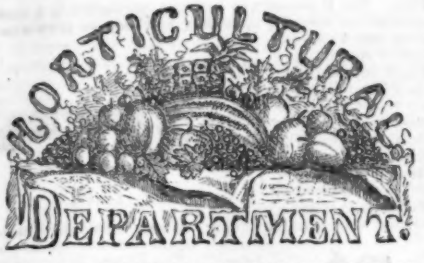
Many instances might be cited where the *alarm-cry* of the hog has proved of signal service to individuals, as well as to nations and communities. It is related that a "down-east coaster," during a thick fog, was once at anchor near the mouth of the Penobscot, when the vigilant skipper heard the creaking of blocks and other noises, which plainly indicated that some large vessel was coming down upon him before the wind. He had neither gun or speaking-trumpet, whereby to give notice of his position, but being fruitful in expedients, and having on board a tall old porker, he roughly seized him by the ear, and gave it a terrible twist—the consequence of which was a tremendous yell, which sounded far and wide, like a steam-whistle in an agony. That this expedient had the desired effect, the skipper was immediately apprised, by hearing at a short distance a sharp and stentorian voice call out, "Starboard your helm, Jack—bear a hand, my boy! we are close aboard a hog-yard!"

Your Committee can say, with pride as well as with truth, that, although not numerous, the pigs at the Norfolk County Agricultural Fair, by their exemplary conduct and plump appearance, have reflected honor on themselves and the County.

These hogs are unlike the breed of racers with long ears, long bodies, long faces and long legs, which, comparatively a few years ago, overran the State, and which even now may be found,—rare curiosities, we trust,—in some parts of the Commonwealth; hogs which could be successfully pitted against an Arab courser for a quarter race, or an English hunter, for leaping a stone wall or a five-barred gate.

They are still more unlike a slim breed of pigs, which some of our farmers once highly prized, and which were only prevented from crawling through a knot hole in the sty, by tying an overhand knot in their tails! Those thin, gaunt, slab-sided and wolfish-looking hogs, were real gormandizers, but would not *pay* for their keeping. They had other queer qualities, too, which are worthy the attention of the curious inquirers into the mysteries of human,—or to speak more correctly,—hog nature.

It is recorded on good authority that one man, after having bought one of these unsightly monstrosities from a drove, said the pig had a wonderful appetite, but would not grow an inch! He would eat a bucket full of dough, after which, when put into the same bucket, the little rascal did not fill it half full,—and did not weigh half as much as the dough did before the pig swallowed it! This man had evidently "got the wrong pig by the ear!"



LOOK AFTER THE INSECTS.

Much of the success of the horticulturist is dependent on the degree of intelligence and promptness which he exercises in the destruction of insects. The settlers of a new country are rarely troubled by the insects which prove such a constant source of loss and annoyance in older countries. In consequence of this exemption for a few years, the study of entomology is neglected; and when the insects make their appearance, they find the field clear, and the hasty means which are put forth at the moment offer little resistance to their destructive career.

The Hessian fly proved more destructive than the Hessian troops which introduced it into this country. Had we been as familiar with the weapons of the one as of the other, both would have alike failed to inflict much damage. We must study their habits, and ascertain their weak points. Insects are formidable because of our ignorance of the laws which govern their propagation.

The men that have cleared the forest, and peopled our broad land with all the appurtenances of high civilization, are certainly possessed of sufficient energy to repel the little insects which prey upon our crops. But they must call upon science to aid them.

We have not space to give a full description of the insects which are injurious to the fruit-grower and gardener at this season; but a brief allusion to a few of them may not be unacceptable.

The Apple Tree Caterpillar, or Lackey Moth. (*Clesiocampa Americana.*)—This is the common caterpillar, whose cobweb nests are everywhere seen hanging upon the apple and cherry trees during the months of May and June. Few people, however, are acquainted with the moth, or miller, into which these caterpillars turn, a cut of the male of which we give (fig. 1).

FIG. 1. LACKEY MOTH.

The moth is of a dull reddish color, varying in the depth of the tint upon different individuals—the females being generally paler, approaching to grayish. There are two straight white stripes extending obliquely across the fore-wings, dividing each wing into three nearly equal portions. Fitch says of this insect: "The moths are the most numerous about the end of the first week in July. They pair, and the females deposit their eggs in a day or two after they come out of the cocoons." The eggs are laid in clusters upon the twig, somewhat symmetrically disposed in rows and finely glued together in a solid mass, having a gradual tapering off at each end, and covered over with a thin glutinous coating which hides them from view and protects them from the weather, as shown in fig. 2. They remain upon the tree through the autumn and winter, until the warm weather of April or May hatches them out. For a few days after hatching the young worms feed upon the matter which envelops the eggs, until they are strong enough to crawl about. Fitch says: "They move down the limbs one after another, each spinning from his mouth a fine silken thread which he attaches to the bark, whereby his foothold and that of those who follow him are rendered more secure. On coming to a fork of the limb, they halt, and there erect a kind of tent for their subsequent residence, by traveling around the spot, spinning their threads in every direction, forming a web resembling that of a spider. This at first is quite slight, and wholly inadequate to shelter them. But thousands of additional threads being added to it every fair day, it rapidly becomes substantial and better adapted to protect them." These caterpillars grow in size, and leave their habitation regularly at stated hours during the day to feed upon the leaves. At first the worms are but one-tenth of an inch long, but they keep growing till they reach one-quarter of an inch in length. During this period they moult or change their skins five or six times, causing them to present a very diversified appearance of colors. By the month of June they have become full grown, and then disperse in search of secure retreats in which to spin their cocoons and undergo their transformation into pupæ. The cocoons are oval, pale yellow, about an inch long, and may be found in crevices in the bark of trees, under the rails and boards of fences, beneath the corners and clapboards of buildings, or almost any place where they are sheltered from rain.

FIG. 2. EGGS.

Many modes of destroying these caterpillars have been adopted, but the two most effectual are, first, to destroy the eggs by cutting off every twig having a cluster of eggs on it, and scraping them off the larger limbs carefully into a basket, and burning them. This may be done in the winter season. The other method is to destroy the caterpillars by tearing off the nest while they are all in it, and crushing them to death with the hand or foot.

The Handmaid Moth, or Yellow-necked Apple Tree Worm. (*Eumetopona ministra.*)—Although there is perhaps no insect frequenting our apple trees which excites more notice, and causes so much alarm at the time of its appearance, as this; yet its economy and habits were scarcely known until Fitch described it in 1853. The perfect insect is a moth measuring from two to two and a half inches across the spread wings. The fore-wings are of a dusky buff-color, crossed by four or five bands of a darker tint; the hind-wings are of a light color, approaching to white; the body is nearly of the color of the wings, and the head and thorax bright orange. There are, however, several varieties of this moth, differing more or less in the markings of their wings. They appear upon the wing in June and July, and the female deposits her eggs in a cluster on the under side of a leaf, at the end of the branch of an apple tree. They hatch about the 20th of July—some a month later. The young worms, when just hatched, are of a tawny yellow color, nearly red, and thinly covered with white hairs. When mature they are coal black. They are from six to eight weeks in reaching their full size, and it is thought they then drop off the tree, penetrate the ground, and become transformed into pupæ there; but this point has not yet been decided.

THE HANDMAID MOTH.

The worms commence devouring the leaves at the ends of the limbs, and as they grow they strip the leaves from the tree, and from the twigs toward the trunk, giving the trees a bare and wintry appearance. Some years they are

much more abundant than in others. When engaged in feeding, they are huddled together on the under side of the leaves, a row of shiny black heads, like a string of large beads, appearing all along the sides of the leaf, each busily engaged in gnawing the margin, which rapidly melts away as they progress in their work of destruction. When at rest, they may be found clinging to the twigs they have just stripped.

More than half of these caterpillars are usually destroyed by birds, and what remains are easily destroyed by cutting off the twigs on which they are found and throwing them into the fire.

THE ROSE-BUG. (*Macrodactylus subspinosa.*)—About the middle of June this insect makes its appearance on the rose bushes in great numbers, consuming the foliage, both on this and all plants belonging to that order, including the apple, the plum, and cherry. Grape vines also suffer severely, wherever these insects are numerous. They may be met with on Indian corn, as well as many garden vegetables, and grasses. They devour the fruit as well as the leaves. The perfect insect is exactly the size of the one represented in the cut. It is a small beetle, of a blackish color above, but covered with minute scales which give it a buff or ochre yellow tint, the under side of the body being white; the legs are bright tawny-yellow, and covered with fine hairs. There are several varieties, slightly differing from each other in color and general appearance. These insects show themselves in great numbers quite suddenly; and after continuing about a month, and committing great depredations upon almost every green thing within their reach, they vanish as suddenly as they came.

THE ROSE-BUG.

FITCH says: "Towards the close of their lives the females crawl an inch or more into the ground, where they deposit their eggs, which are about thirty in number to each insect. These hatch in twenty days afterwards, and the little whitish grubs which come from them, feed upon whatever tender, juicy roots they find. They grow to their full size before winter, and are then three-quarters of an inch long. To pass the winter, these grubs descend into the ground below the reach of frost, and become torpid. When warm weather returns, they revive and crawl back to the surface, and each worm forms for itself a pod-like cell of an oval form. This is made by the worm turning round and round in one spot, whereby the earth surrounding it becomes firmly compacted together." In this cell it changes to a pupæ, from whence the perfect insect emerges in June, and is first seen upon the oak and elm, before it invades the garden. These beetles find more natural enemies opposed to them than usually falls to the lot of insect existence. The large dragon-fly devours them in great numbers: all the insectivorous tribe of birds make war upon them; fowls, ducks, and poultry generally, feast and fatten upon them. But where they appear in excessive numbers, great difficulty is experienced in getting rid of them. The only reliable measure yet known, according to FITCH, is to gather them day after day by hand, or by brushing them into tin vessels of water, or by shaking or beating them from the trees into sheets spread underneath, and then crushing, burning, or scalding them.

THE PALMER MOTH. (*Chætochilus pometellus.*)—This moth (fig. 1,) is small, being sixty-five-one-hundredths of an inch across the expanded wings. It is of an ash-gray color, the fore-wings sprinkled with black atoms, and having a fringe on the outside border; the hind-wings are dusky, with a glossy azure-blue reflection, also with fringes. The larvæ (fig. 2,) are pale yellow, with a darker stripe along the back, and a darker head. They grow to half an inch in length, and when full grown appear more of a green color. Along each side runs a blackish stripe; several small black dots are scattered over the body, from each of which springs a hair. FITCH says of it: "Though not abundant, this worm is common upon the leaves of orchards and forests, making its appearance about the middle of June. But it sometimes becomes multiplied in a most astonishing manner, appearing suddenly in great numbers, over a vast extent of country, in a single day changing the green foliage every where to a withered brown hue, as though scorched by fire. And after continuing a week or two it disappears as suddenly as it came, so that a tree which to-day contains hundreds of these worms, to-morrow not one can be found." The foliage is sometimes so entirely destroyed by this worm, that whole orchards and forests perish. It remains upon the tree concealed in a sort of fold formed in the leaf, by spinning a slight silken web with which it joins together three leaves (fig. 3), in the hollow of which it lies concealed. They change into pupæ in these about the end of June, and about the middle of July the moths emerge from them, lay their eggs, and then perish.

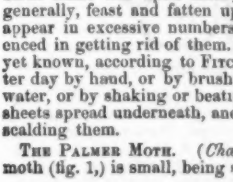


FIG. 1. PALMER MOTH.

FIG. 2. LARVÆ.

FIG. 3.

THE CODLING MOTH. (*Carpocapsa Pomonella.*)—Appears in June, and may be sometimes seen in houses in the evening, having been brought in with the fruit while in the larva state. Our cut gives an idea of the marking of the wings, which are of various shades of brown and gray, resembling watered satin; and also represents the grubs in the apple. These moths lay their eggs on the young fruit in July, dropping them in the hollow at the blossom, or the stalk ends; they prefer the early to the late fruit, and select the finer sorts. The grubs hatch in a few days, and immediately burrow into the apples, where they remain near the core feeding upon the substance of the fruit. These grubs are whitish at first, and become pink as they reach maturity, which is in about three weeks. To get rid of the refuse fragments of its food, it gnaws a hole through the side of the apple, and thrusts them out of it. The fruit usually falls before it is ripe, and the worm escapes into the ground, or, if not, it crawls out upon the tree, and in either case spins a cocoon and transforms into a pupa, in which state it remains through the winter. The best way to check their increase is to gather up all premature fallen apples and make immediate use of them, destroying the insects within when they are cut open. Pieces of cloth wound around the limbs of the tree will attract those that have escaped from the fruit while on the tree, and when unrolled will often contain thousands of chrysalides, which may be thrown into the fire. Where orchards are much infested by moths, &c., lighing small fires of straw or shavings, here and there under the trees, will be an effectual means of destroying great numbers by attracting them into the fire.

THE CODLING MOTH.

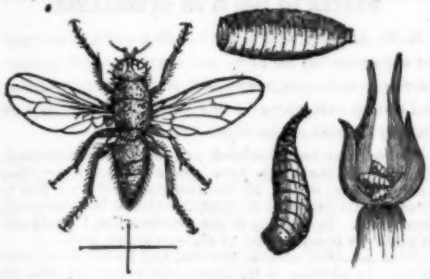
THE MAY-BEETLE. (*Phyllophaga quercina.*)—This insect belongs to the *Cockchafer* tribe, and is very destructive to vegetation. The cut shows:—1, Field-chafer, magnified; 2, line showing natural size; 3, Garden May-beetle; 4, do., magnified; 5, larva. The common garden-beetle is about an inch long, of a chestnut-brown color, smooth but with the surface finely punctured. In its perfect state it feeds upon the leaves of trees, especially those of the cherry. The beetle flies with a humming noise at night, during May and June, and is frequently attracted into houses by a light. The larvæ are the com-

mon white grubs with brown heads, so often seen in turning up the soil in the garden. These grubs are a great pest, devouring the roots of vegetation. These beetles are extensively eaten by the skunk, whose foot-prints are often seen in the garden, and he is then accused of being in search of eggs, or chickens, &c. Birds of every kind are fond of the grubs and devour them. The beetles may be effectually destroyed by shaking them from the fruit trees late in the evening or early in the morning; they

THE MAY-BEETLE.

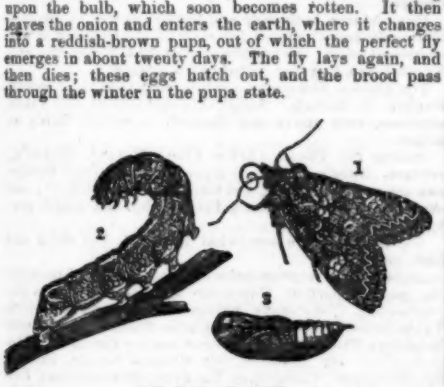
are then easily collected and thrown into boiling water, and afterwards given to the poultry or swine. Two or three pailfuls of them have been collected from a single tree.

THE ONION FLY. (*Anthomyia ceparum.*)—The first figure on the right shows the onion cut open and grubs at work, natural size; second figure, the grub, magnified;



THE ONION-FLY.

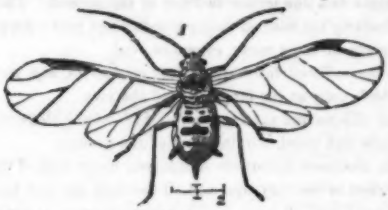
third, the fly, greatly magnified—the cross lines under, showing natural size; and the upper figure, the pupa, magnified. The fly lays her eggs on the outer leaves of the onion, close to the earth; the eggs hatch in a week or two, and the young maggot then descends between the leaves of the onion to its base, where it remains feeding upon the bulb, which soon becomes rotten. It then leaves the onion and enters the earth, where it changes into a reddish-brown pupa, out of which the perfect fly emerges in about twenty days. The fly lays again, and then dies; these eggs hatch out, and the brood pass through the winter in the pupa state.



THE CABBAGE MOTH.

THE CABBAGE MOTH. (*Mamestra Brassica.*)—This moth (fig. 1) appears at intervals during the season from May to October, which leads to the belief that two broods of them occur in each year. The worm infests the outer leaves of cabbages, lettuce, and other plants, which may frequently be observed riddled with holes, the work of this worm. It seldom, however, attacks the heart of the plant, like the European species. This worm (fig. 2) is a most choleric, mercurial little creature, and when disturbed it bends nearly double, and wriggles away backwards, or by a fine thread lets itself down from the leaf, rendering it difficult to catch and destroy it, which is the only way to effectually get rid of this species. Ducks and poultry are useful for this purpose. Watering the plants is said to be effectual in driving these caterpillars off the plants, but they would probably return to them again after the moisture has become dried up. Its greatest enemy is a small parasite or Ichneumon-fly, which deposits its eggs in the body of the worm, and the little maggots which hatch from them feed upon the vitals of the caterpillar till it is full grown, when it dies, and the maggot of the parasite transforms into a pupa within the dead body. Such worms as escape this and other enemies, spin a pretty gauze-like cocoon, and change into pupæ (fig. 3) within it. These cocoons may be found attached to the under side of the eaten leaves, two or more together, and are easily gathered and destroyed in the fire.

PLANT-LICE. (*Aphidæ.*)—This is a very numerous class of insects, belonging to the order *Hemiptera*. The different varieties so much resemble each other, that the figures we give of the cabbage plant-louse, *Aphis Brassi-*



ca, (fig. 1, male, magnified; 2, natural size; 3, female; 4, do., magnified,) will give an idea of the entire tribe. These Aphides are extensively preyed upon by numerous insects, especially the carnivorous beetles, among which their greatest enemy is the well-known Lady-bird. The same remedies will be found equally applicable to all, viz: Thoroughly drenching the plants with strong soap-suds. Brushing them off will sometimes answer. When trees are infested by them, scraping off the rough bark and applying a paint made of equal parts of melted resin and fish-oil, has been found effectual. Placing a small quantity of soap in the fork of a limb, close to the trunk of the fruit trees, so that the rain may dissolve and wash it down the stem, is a very effectual way of preventing the female aphides from endeavoring to effect a lodgment.

THE POTATO DISEASE.—A gentleman in England professes to have discovered a remedy for the potato disease. It is simply *bending down the haulms of the potatoes*, as soon as they have reached their full growth, say about the 1st of July. He has made the experiment, and those so treated were entirely free, while others in the same field were seriously injured by the disease. The reason assigned is as follows:

A microscopic Fungus is first deposited upon the leaves and the haulm, where it multiplies by millions; as soon as the rain descends, these parasitical plants are washed downwards to the tubers, which they immediately attack, and the potatoes are thereby completely destroyed. By turning down the haulms over the vacant spaces, the fungi are washed by the rain from the plant on to the naked soil, where, wanting nutrition, they perish, and the tubers are protected from their destructive effects.

GRAPE VINES—HARDINESS OF DIFFERENT VARIETIES.

As the past winter has been one of unusual severity, it enables us to judge with considerable precision of the comparative hardiness, in our climate, of many varieties of plants; and as the reports are received from time to time, from different parts of the country, a large fund of valuable information will be derived, by which the course of planters in the future will be guided.

We have here to offer a few facts in reference to some sorts of Native Grape Vines.

In the garden of a gentleman in this city, there is a long trellis, on which are grown several vines of *Isabella*, one of *Delaware*, one of *Rebecca*, one of *Diana*, and one of *To Kalon*, and one of *Hartford Prolific*—all having the same exposure.

The vines were pruned early in the winter, and left tied up, without any protection.

The vines are all from six to eight feet in height, with laterals.

Most of the buds of *Isabella* are killed from the tops of the vines to a line within two feet of the ground. This is particularly the case on young wood of last year's growth, and many of these canes, even, are dead.

Diana suffered fully as severely as *Isabella*, and shows live buds only on the lower part of the vine.

The *Rebecca* and the *Hartford Prolific* were killed entirely, buds and wood, within a foot of the ground.

The *Delaware* is entirely uninjured; every inch of wood is perfect to the very tips, and all the buds are now bursting.

The *To Kalon* is uninjured, and is as hardy as *Delaware*.

This test we consider a very fair one, and it must place the *Delaware*—combining, as it now appears, superior quality, with early maturity and great hardiness—at the head of all our varieties of Native Grapes.

The following remarks of Mr. D. S. HEFFRON, of Utica, in the May number of the *Horticulturist*, we place before our readers, as affording still further testimony to the hardiness of the *Delaware*:

"A Mr. FOSTER first brought the *Delaware* to this county nearly eighteen years ago. He obtained the cuttings of a friend in Lambertville, N. J. After fruiting the vines for a few years, Mr. FOSTER changed his residence a short distance, but he reserved his vines, and took them with him, and has fruited them where he now resides, for the last ten or twelve years.

"That Mr. FOSTER's vines are the true *Delaware* I do not ask you to believe on my word alone; for, in August, 1860, having a call from Mr. CHARLES DOWNING, of Newburgh, and the *Delaware* Grape king, Dr. C. W. GRANT, I had the pleasure of showing them one of Mr. FOSTER's *Delawares*, in fruit, in the fine grounds of the Hon. O. B. MATTISON. These gentlemen both pronounced it the genuine *Delaware* by the time they were within ten feet of it. No further testimony need be added as to the genuineness of this grape; but it may not be out of place to say, that when the fruit was ripe I took the trouble, for my own satisfaction, of comparing it with fruit that I had grown in my own grounds, from *Delaware* vines that I had obtained from Dr. GRANT, and I found them exactly alike *in every respect*.

"Unfortunately, the FOSTER *Delaware* has not been disseminated much, as its proprietor has been satisfied with having a few old vines, producing a better quality of fruit than any of his neighbors; and not knowing its true name until the fall of 1859, he has never propagated it, except a little by layering for the accommodation of his immediate friends.

"And now what does this disinterested witness say of the *Delaware* during all this time that he has grown it? He showed it to me on an open trellis in his yard, and assured me that he had always grown the vines thus exposed; said he had never been in the habit of laying them down in winter; had never had the vines winter-kill so as to injure them; had never known them to mildew; if they had, he had never noticed it, and thinks he would have noticed it had it taken place. And, what will please us all, he said his *Delaware* had never failed to yield him a full crop of most luscious grapes annually, that had always ripened before our early frosts.

"It appears to me that no vine but a native, 'to the manor born,' could bear such a severe test as Mr. F. has unwittingly given the *Delaware*, and come off with such flying colors. The past season was a very trying one for vines in this section. The most of them grew late. The *Isabella*, *Catawba*, and others of the same class, mildewed very badly, and did not ripen their wood as well as usual; but the *Delaware* ripened its wood as well as the *Concord*, and was not more affected by mildew. I saw no rot among the fruit of the *Delaware*, while the *Concord* was slightly affected by it.

"It should not be forgotten that our winters are pretty severe, the mercury sometimes marking nearly 30 degrees below zero. On the morning of the 7th of February ult., the mercury was 27 below in the city, and 28 to 30 below zero in the country about here."

In Canada, the extreme Northern States, and all the region of the northern limit of the vine, the *Delaware* now promises to be more valuable than any sort yet introduced.

WINTER OF 1860-61 ON EVERGREENS.

H. W. SARGENT, of Fishkill Landing—who, as our readers are aware, has for many years been engaged in experimenting with evergreens, and is constantly collecting and testing everything in this line that is new—says, in the May number of the *Horticulturist*:

"In my own neighborhood, as I have before mentioned, the effects of the winter have been much less severe than usual; nearly, in fact, all the evergreens which I have in former years reported as hardy, continue to deserve this reputation. In addition to the previous list, I would add, as perfectly uninjured by 19 degrees below zero—

Picea amabilis, nobilis, grandis, and Parsonii or Lasiocarpa. In addition to the previously mentioned *Abies*, are Taxifolia, Jezoensis, Whitmaniana, and Pattonii.

Cryptomeria Japonica, both the common variety and Lobbii, seem to have become acclimatized, and are hardly touched.

So, also, *Cunninghamia sinensis*, which is perfectly green, and beginning to grow.

Deodars, on the contrary, appear hopeless, except as bushes.

Cephalotaxus, both male and female, as well as *Thuiopsis borealis* and *Cupressus Lawsoniana*, are as hardy as our common Cedars. Cupressus macrocarpa, Goveniana, and Knightii are, however, killed to the ground.

The *Golden Yew* seems much hardier than the common English, (T. baccata,) though this stands well, and Taxus adpressa, very pretty and distinct, is equally hardy as either.

Among the *Thuja*, (Arbor Vitæ,) Hoveyi, (Hovey's,) cristata, (Buist's Seedling,) gigantea, glauca, and Craigeana are perfectly green, and have been so all winter; and even *Podocarpus nubigena* holds its color and health perfectly well.

Wellingtonias are somewhat browned, but wood and buds good.

Among the *Evergreen gains* of the past year, I consider the most important, Cupressus Lawsoniana, Taxus elegantissima, Podocarpus nubigena, Berberis Japonica, Taxus monstrosa, Taxus microphylla, Pinus Jeffreyi, Pinus Beadsleyi, Pinus Sabiniana; and among the named *Rhododendrons* are Azureum, Sir Charles Napier, Bicolor, Grandissimum, Concessum, Vandyke, Barclayanum, Delicatissimum, Cœlestinum, Bravanum, Multimaculum, Achimedes, Magnificum, Prince Albert, Lord John Russell—all of which are entirely uninjured and well set in flower-beds.

HOW TO GET HARDY TREES AND SHRUBS.

The late severe winter in England has brought out many interesting facts in regard to the power of resisting cold, possessed by different individuals, of the same species of plants. The *Gardener's Chronicle* mentions a case, where a number of seedling Araucarias in a nursery were destroyed, while here and there some, exposed to the same degree of cold and otherwise in the same circumstances, were perfectly hardy, and thinks the reason for this difference is that some of the seed was probably brought from a colder latitude than others. The seeds of the Araucaria which have hitherto been brought to England are from the warmest locality in which the tree is known to thrive. It is found on the Andes, nowhere lower than from 1500 to 2000 feet below the snow line, *up to which it frequently reaches*. There is little reason to doubt that seed from these trees growing in the high and cold latitudes, would give us much hardier trees than those raised from seed from the warmer regions. Dr. LINDLEY thinks they would be "wholly hardy," and adds: "What has been said of the Araucaria may be equally applied to all species that will ripen seeds in Europe, or whose wild stations quit the hotter for the colder latitudes. We know that there is an olive tree far more hardy than the common olive, that even apple trees are unlike each other in the power to bear cold, that ridge cucumbers will survive a frost that reduces other sorts to pulp, that peach trees in like manner differ a good deal among each other, that in the orange and lemon race some are more tender than others, one, the skimmia japonica, being as hardy as a gooseberry, and that the hardy kail of a Scotch homestead is descended from the same stock as the tender cauliflower, the delicate constitution of which it refuses to acknowledge. All these differences have been produced either by artificial or natural selection; and we think it a most encouraging fact, that such a plant as the Araucaria already shows unmistakeable evidence of the existence of a universal law, of the utmost importance to the gardening world.

Were we importers of seeds, we should endeavor to procure those of the Portugal laurel from the highest mountains of the country whose name it bears, of the bay tree from its greatest height on the Appenines, and of the Laurustinus and its varieties from the mountains of Spain. When we remember that the beautiful Pinsapo is in all probability the same in origin as the tender Cephalonian fir, hardened by centuries of existence on the snow-clad mountains of Grenada, and tenaciously retaining its robust constitution, we have the strongest possible reason for believing that other trees will change in like manner."

A JAPANESE FIR TREE.—Mr. FORTUNE, in a recent letter from Japan, mentions "an extraordinary specimen of a dwarfed Fir Tree. Its lower branches were trained horizontally some 20 feet in length; all the leaves and branchlets were tied down and clipped, so that the whole was as flat as a board. The upper branches were trained to form circles one above another, like so many little tables, and the whole plant had a most curious appearance. A man was at work upon it at the time, and I believe it keeps him constantly employed from day to day throughout the year."

A JAPANESE GRAPE.

Mr. R. FORTUNE, in his last letter from Japan to the London *Gardener's Chronicle*, mentions a grape that grows about Yeddo, that he thinks worthy of introduction into this country. He says:

The vine of this district, which you may as well name at once the "Yeddo vine," produces a fruit of great excellence. The bunches are medium-sized, the berries are of a brownish color, thin-skinned, and the flavor is all that can be desired. This grape may be valued in England, where we have so many fine kinds, and most certainly will be highly prized in the United States of America. A few years ago I was traveling from Malta to Grand Cairo, in company with Mr. BRYANT, the celebrated American poet, and a genuine lover of horticultural pursuits. This gentleman informed me that, owing to some cause, our European vines did not succeed much on the other side of the Atlantic, and suggested the importance of introducing varieties from China, where the climate, as regards extremes of heat and cold, is much like that of the United States. I had never met with what I considered a really good variety of grape in China, and therefore have not been able to act on Mr. BRYANT's suggestion. At last, however, we have a subject for the experiment, and I urged its importance on Dr. HALL, who is an American citizen, and who has already introduced a number of plants to his country from China. He enters warmly into the matter, and no doubt will accomplish the object in view. I therefore conclude this article, by giving notice to your readers on the other side of the water to look out for the arrival of the "Yeddo vine."

We hope to hear of the arrival of the "Yeddo vine."

COLD MORE INJURIOUS TO PLANTS ON LOW THAN ON HIGH GROUND.—A correspondent of the *Gardener's Chronicle*, speaking of the effects of the severe cold in England last winter, says:

The varied effects of the frost upon evergreens in this immediate neighborhood are remarkable. Here in the valley of the Thames scarcely a shrub has escaped either destruction or injury; whereas on the chalk hills within two or three miles no trace of its severity is perceptible, except in the bronzed appearance of the Laurustinus, and the loss of some of the Roses. Similar, although in a modified form, were the effects of the winter of 1837. With me the Laurels, Laurustinus and Bay were then, as now, killed to the ground, but on the hills not a shrub was injured. The ground here is much undulated and the same effect of situation, in a slight degree, is observable; the trees and shrubs that have suffered most are those on the low ground, and in the protected valley. Evergreen Oaks (many of them 30 to 40 years old), Cupressus macrocarpa, from 10 to 30 feet high, Deodars of large size, and Pinus insignis, are all apparently killed to the root.

PYRAMIDAL HYBRID PERPETUAL ROSES.—Like all really good gardening ideas, the culture of rose pyramids is very simple. Some strong two year old stocks of the Manetti rose should be planted in November, in a piece of ground well exposed to sun and air. In the months of July and August of the following year they will be in a fit state to bud. In the month of February following, the stocks in which are live buds should all be cut down to within six inches of the bud. In May the buds will begin to shoot vigorously; if there are more shoots than one from each bud they must be removed, leaving only one, which in June should be supported with a slight stake, or the wind may displace it. By the end of August this shoot ought to be from five to six feet in height, and is then in a proper state for budding to form a pyramid. Commence about nine inches from the ground, inserting one bud; then on the opposite side of the stock, and at the same distance from the lower bud, insert another; and then at the same distance another and another, so that buds are on all sides of the tree up to about five feet in height, which in the aggregate will amount to seven buds. You will thus have formed the foundation of a pyramid.—*Rivers' New Rose Amateur's Guide.*

Ladies' Department.

A NEW PREPARATION OF FOOD.

The following new method of preparing Indian corn for household purposes, and the method of its discovery and application, were detailed by Solon Robinson, at a late meeting of the American Institute Farmers' Club. It is well worth the attention of all housekeepers, particularly those who can grow their own corn, and have a supply of milk and eggs:

Mr. Robinson, having furnished a specimen of the new pudding, said:

I promised the Club, before the holidays, that I would introduce a new article of food, or rather an old article prepared in a new way, and tell the farmers how they can grow and prepare upon their own farms a substitute for rice, farina, tapioca, sago, etc., for culinary purposes—something, in short, that shall be as good as either of the above substances for the use of the good housewife to make a pudding—a pudding that is not a mere adjunct of a dinner, but a real substantial addition to it; as hearty as one of corn meal, more wholesome than that, more toothsome, and equally cheap, so that it is within the reach of all, both rich and poor; and as I think it a valuable discovery in the preparation of food, I am anxious that everybody should enjoy the benefit of my discovery.

"Necessity is the mother of invention." It was so in this case But first, before I tell of that necessity, I want these ladies and other members of the Club to taste the new pudding. This specimen was baked yesterday, and, like all similar articles of cookery, to be perfectly enjoyed, must be eaten hot from the oven. But it is not bad when "warmed over," as such things often have to be in all families, the second day. And it will not "choke a dog," if eaten cold.

The Origin of the Pudding.—Now I will tell you how it was discovered that a pudding could be got up in an impromptu manner, upon an emergency, in a farm-house, when the principal ingredients were exhausted.

I will tell the story in my own way, and commence with a conversation between a servant-girl and her mistress:

"Oh, dear, ma'am, what shall I do for a pudding today; your father says he will have company, and told me that the cold roast would do well enough, if he had a good pudding?"

"Very well, then, make such a one as you had on Monday."

"Yes, ma'am, so I would, but I have no rice."

"Well, there is some farina."

"No, ma'am, it is all gone; I thought of that, or tapioca, but there is none, and I have no stale bread. Shall I make a flour pudding?"

"No; father don't think a flour pudding fit to eat. We will make a corn-meal suet pudding."

"Oh, dear, ma'am, the corn-meal is musty. I could run and borrow a little, I suppose."

"No, no; my father would rather go hungry than live by borrowing. Besides, I don't think there is time to make a corn-meal pudding; it requires four good hours to cook it sufficiently; otherwise it always has a raw taste, and is never good unless cooked a great deal. I think you will have to give up the pudding."

"Oh, dear, won't you ask him what we shall do, when we have nothing to do with?"

So that was arranged. The master of the house, who had ordered a pudding, was to be consulted, and the deficiencies of the larder explained and the wrath of disappointment deprecated.

It is sometimes necessary to use art, as well as food, to appease a hungry man. In this case the dilemma of the household, and prospective loss of pudding, did not produce anger. It elicited a quiet smile. Invention was instantly at work. A minute later, the project was complete, and the inventor replied: "Don't fret yourself about the inconvenience of being out of ingredients, and no way of replenishing in the country on Sunday. We will have the pudding."

How it was made.—So he said: "Will you pop for me a pint of your nice, white pop-corn?"

"Yes; but what project have you got in your head now? Some experiment, I'll warrant. If you are going to make a pop-corn pudding, it will, I fear, be a waste of time and material, and prove a great failure."

"No matter; there is as much to be learned by failure as success. Let us try."

So we did. The pint of pop-corn was put through the operation, and it made sixteen pints of popped corn, such as is sold in the streets at four cents a pint. This was first crushed with a rolling-pin on the kitchen table, and then ground in the coffee-mill into a coarse meal which measured eight pints. Five pints of this were mixed with four pints of sweet milk, and set where it would warm and soak. [It should soak a couple of hours or more.] Then two eggs, sugar raisins and spice were added, just as you would add such things to a rice pudding, and then it was set on the hot stove and boiled a few minutes, stirring it several times to get the meal well mixed with the milk, because it inclines, from its great lightness, to float, and if baked without stirring, there will be a brown crust on top and custard at the bottom. It was baked about an hour, and served hot and eaten with great satisfaction—satisfaction that a new ingredient for a delicious, rich, wholesome pudding had been discovered—one always at hand, easily prepared, and one that has never failed to gratify the taste of a score of persons who have since tried it.

The Cost of the Pudding.—The cost of such a pudding to a farmer is the cost of the sugar, raisins and spice—the milk and corn I count at nothing. What should I count the cost of five-eighths of a pint of corn and four pints of milk, which, if not eaten upon the table, would go to the pigs? The eggs would sell hereabouts for four cents, and the things bought cost as much more, in a pudding that fed eight hearty people. Let us then eat pudding—good, rich pudding—as much as we can at a meal, at a cost of one cent each. It is cheap—try it, and say it is good.

To Handle Knives and Forks.—Take those that require a handle all in one piece first—black walnut makes beautiful handles—split out your pieces just the right size, burn a little hole in the ends, or bore it if it won't split; then, while the fork is heating, cut up a little tow fine, and mix it in with some powdered resin, or some kind of cement, fill the hole half full and put in the fork while it is hot, and lay it by to cool. If you have no old ivory handles for those that require two pieces, split out and smooth off some soft pieces of wood, and fasten them on with rivets made with little bits of wire, or else let the wire be long enough to go clear round the handle, and file the round ends and edges smooth. So says a lady correspondent of the *Ohio Cultivator*.

ORIGINAL DOMESTIC RECEIPTS.

Dried Beef.—Slice dried beef very thin, put it in the spider with water sufficient to cook it tender, add sweet cream (or sweet milk with a little butter will answer); let the milk come to a boil; stir in a little flour previously wet with cold milk, and let it boil long enough to cook the flour. This is an excellent dish to eat with baked potatoes. Try it.

Pickled Eggs.—Boil a blood beet and slice it into vinegar; then boil your eggs hard, remove the shell, and put them into the colored vinegar while hot. They will be ready for use in an hour or two. When wanted for the table slice them into four or five slices, and lay the slices around on the plate. They are a nice delicacy for the tea table.

Nice Rice Pudding.—Boil 1 teacupful of rice in water until soft, or until the water has evaporated, add 2 quarts of new milk, ½ cup of sugar, 2 well beaten eggs, ½ teaspoonful of salt, 1 teacupful of raisins, and season with spice or nutmeg to suit the taste. Bake until it wheys.

English Plum Pudding.—½ lb. bread crumbs, ½ lb. suet, 1 lb. currants, 1 lb. raisins, ½ lb. sugar, 1 oz. cinnamon, 1 nutmeg grated, 2 wine glasses of brandy, and 8 eggs beat up. Boil in a cloth or basin for two hours. Serve up with brandy sauce.

Steamed Wheat Flour Pudding.—One quart of sour milk, ½ teacupful of cream, 2 eggs, 1 teaspoonful of soda and a little salt. Stir in flour so as to make a stiff batter. Steam one hour, and serve with sweetened cream.

Miscellaneous.

THE FARMER'S BANK.

The times may be hard as the ground,
Frozen stiff in the December cold;
But the bank of the farmer is sound—
If broken, it discounts in gold.

His share is a plow-share in banks
Whose dividends never rely
On the grind-stone men at their cranks,
But on rain and the sunshiny sky.

His deposits are small, but they yield
A hundred per cent., or her seed
So that gold grows up in the...
Like a thought that grows into a ...ed.

GEO. W. BUNGAY.

THE GIFT OF GOOD JUDGMENT.

In casting our eyes over the community, we see not only a great variety in human faces and habits, but also an equal variety in the success to which different people arrive in the business of life.

Let two young men engage, either in trade, agriculture, or mechanics, and one will vacillate continually between prosperity and adversity, while the other will steadily advance toward an honorable competency, which seems of its own accord to come forward to meet him. Now, why is this?

The chisel of chance does not sculpture so many models of success, neither can the power of mere circumstances prevail in so many instances. I refer it to the gift of judgment.

I know a man who began life without a dollar or a dollar's worth of anything. He rented a farm, went in debt to stock it, and what was the result?

He paid his rent, and something on the stock the first year. Notwithstanding the fluctuating crops and fluctuating prices, he went ahead, and now, in the prime of middle life, he owns free and clear all the stock and utensils of extensive operation, and although still on a rented farm, he has money enough to buy one when he sees fit.

What is the secret of this man's success? It is not mere hard work. He is an industrious, but not a hard-working man. Being a near neighbor of mine, I know how it is. And I say that the secret of his being able to to pay six hundred dollars a year rent for two hundred acres of land, and get independent at it, is in consequence of his good, thoughtful management.

The evening before, he plans out the work of the next day, and allots to each man his share of it. The eyes of his body and the eyes of his mind are intently fixed on his farm, stopping up holes through which sixpences are leaking, and opening up fountains through which dollars are springing.

He has stables for his cattle, and gutters on his buildings. He sows grass-seed like a spendthrift, and saves manure like a miser. And I must not forget to say that his wife is as good in the house as he is on the farm. She is not only a *help meet*, but also a *help-milk*.

I urge farmers and mechanics to do nothing without thinking. There is not one man out of three in any department of life who does as well as he knows how. A habitual calm reflection would suggest an improvement.

In the rotation of crops, the preparation of land, the division of fields, selection of seed, and a thousand etceteras, the farmer has need of the closest reflection.

In certain quarters the idea is somewhat prevalent that agriculture is a dull routine of mere bodily toil. That a farmer should have a head is necessary to support his hat, but whether there be any brains inside, is in some quarters thought to be a quite unimportant matter. This is a great mistake. Nature must have thought them necessary, or she would not have bestowed them.

Take a farm of one hundred acres, and on it you may find every variety of soil—clay, peat, gravel, loam and sand. Now, each of these soils requires different treatment and different manures. Will any one say there is not room here for the exercise of judgment? There is a world of room! And what is more, its steady exercise will make a vast difference in the farmer's balance sheet at the end of the year.

Ho! every one that readeth these lines—farmer, merchant, professional or tradesman—stop, think. Do nothing without thinking—take not a step—eat not a morsel—speak not a word—do not a deed—without the exercise of thy best guide and thy richest treasure—good judgment and common sense. H. W. BEECHER.

ENGLISH LOVE OF COUNTRY LIFE.

Lavergne, a distinguished French writer, in commenting on the English taste for a country life, remarks:

The national literature, as expressive of manners and customs, contains throughout marks of this distinctive trait in the English character. England is the country of descriptive poetry; almost all their poets have lived in the country and sung of it. Even when English poetry took ours for its model, Pope celebrated Windsor Forest, and wrote pastorals; if his style was not rural, his subjects were. Before him, Spenser and Shakspeare wrote admirable rustic poetry; the song of the lark and nightingale still resounds, after the lapse of centuries, in Juliet's impassioned farewell to Romeo. Milton—the sectarian Milton—employed his finest verse in a description of the first garden, and in the midst of revolutions and business, his fancy carried him toward the ideal fields of Paradise Lost.

But it was principally after the revolution of 1688, when England, now free, began to be herself, that all her writers became deeply impressed with the love of country life. It was then that Gray and Thomson appeared; the first in his celebrated Elegies, and among others his "Country Churchyard," the other in his poem of the Seasons, striking in delightful sounds this favorite chord of the British lyre. The Seasons abound with amiable description; it is sufficient to instance the hay-making harvest and sheep-shearing, the latter being already in Thompson's time a great business in England; and among the pleasures of the country, his account of trout fishing. The angler, at the present day, may find in this little descriptive picture his favorite art fully detailed. The feeling is everywhere lively and spontaneous—enthusiasm, real and deep, for the beauties of nature and the sweets of labor. To these Thomson joins that quiet, high religious feeling which almost always accompanies a solitary and laborious life, in the presence of the never-ending wo...ers of the vegetable creation. It pervades the whole poe..., especially in the concluding part, where he likens the awakening of the human soul after death to nature after winter.

Hiring a Girl.—A lady who wished to hire a "maid of all work," was called into the parlor to see an applicant.

Biddy, (seated on a sofa.)—"I hear yez want a girl."

Lady.—"Yes."

Biddy.—Have yez hot and cold wather carried convaneyantly all over the house?"

Lady, (still standing.)—"Yes."

Biddy.—"Is there gas in the kitchen?"

Lady.—"Yes."

Biddy.—"Carpets on the girl's room?"

Lady.—"Yes."

Biddy.—"Do you have a man to make the fires, and black shoes?"

Lady.—"No. The girl makes her own fires."

Biddy.—"That's too bad. But I likes yez and yer house other ways, and the kitchen looks convanient, so I think I'll come. I'll be expecting nine dollars a month, as I niver works for less."

Lady.—"But I want to ask *you* one question. *Can you play on the piano?*"

Biddy.—"Shure, no ma'am."

Lady.—"Then I'm sure you will not do for me."

—*Homestead*.

Great Age of a Horse.—*Wilkes' Spirit of the Times* gives an account of a small black Galloway, eleven hands high, which attained to the greatest age of any horse of which we have any record. He was a resident of a small village near Haddington, in Scotland. He was foaled in 1720, and at the time of his death he was 69 years old. Moreover he was hale as well as old. A few weeks before his death he trotted for several hours at the rate of seven or eight miles an hour, and fed well in his oats and hay to the last.

Half Volume of the Genesee Farmer.

We will send the forthcoming half volume of the *Genesee Farmer* to any address for twenty-five cents. For one dollar, we will send *five copies*, together with a *Rural Annual and Horticultural Directory* for 1860 or 1861, or any previous year, to the person getting up the club.

Desirous also of disseminating choice fruit, we have made arrangements for a supply of *Delaware* grape vines, by which we are enabled to offer this valuable variety as a premium to all our friends who are willing to aid in increasing the circulation of the *Farmer*. The *Delaware* is now sold at from $1.50 to $3.00 per vine.

For $3.00, we will send 12 copies of the half volume of the *Genesee Farmer* (July to December inclusive), and one *Delaware* grape vine to the person getting up the club!

For $5.00, we will send 20 copies of the half volume of the *Farmer*, and *two Delaware* grape vines to the person getting up the club; and for larger clubs, grape vines in the same proportion.

This is a most extraordinary offer, and we feel confident that many of our friends will gladly avail themselves of it. They will have the satisfaction of introducing the *Farmer* to many who do not now take it, and of supplying themselves, without any expense, with the best grape yet introduced. *We guarantee its genuineness.*

The members of the club need not all be at one post-office. We will send the papers to as many different post-offices as is desired.

As we stereotype the *Farmer*, the back numbers of this year can be supplied, and, in competing for these premiums, a subscriber for a year at 50 cents will be deemed equivalent to two subscribers for the half volume at 25 cents each.

The grape vines will be sent this fall, in good season for planting.

Other varieties, such as the *Concord*, *Rebecca*, *Hartford Prolific*, or *Crivelon*, will be sent in place of the *Delaware*, if desired.

The Rural Annual and Horticultural Directory.—We think this work is deserving a place in every farmer's library. It has been published for six years. It is sent by mail to any address for 25 cents per volume. We have a few complete sets on hand, and have concluded to offer the entire set of *six volumes* for ONE DOLLAR! It will be sent, prepaid, by mail, to any address, on the receipt of the money.

All who send one dollar for five subscribers to the coming half volume of the *Genesee Farmer*, will receive a copy of the *Rural Annual, free*, sent prepaid by mail.

The Hope of the Country.—In the present disturbed state of the nation, all eyes are turned to the farmers. Agriculture always was the mainstay of the country, and now all classes perceive and acknowledge it to be so. There never was a time when farmers were called upon more earnestly to put forth all their efforts—to exercise all their intelligence—to strain every nerve to increase the productions of their farms. There never was a time when strictly agricultural and horticultural journals were more needed. The prejudice against them is fast dying away. They *are*, and by all intelligent minds are acknowledged to be, indispensable adjuncts of a good farmer. No one who claims to be a farmer; no one deserving of the honored name, should be without at least one agricultural paper. And we may without offence, at this time, urge the claims of the *Genesee Farmer*. We try to make it a good and reliable paper, and are cheered with the thought that it is a welcome monthly visitor in thousands of farmer's families. There are, however, many who do not take it. And we would ask *all* our friends at this time to make an effort to extend its circulation. There are few of our readers who could not get *five* subscribers to the coming half volume, at 20 cents each. Our most liberal and extraordinary offer of Premiums in this number, should stimulate all who desire the dissemination of the paper, to use their influence in its behalf. Some of our lady friends have hitherto sent us good clubs for the half volume. Will they not again encourage us by a renewal of their valued and effective efforts?

Edinburgh Water Meadows.—These noted meadows, says the *Country Gentleman*, so often referred to as examples of great productiveness, were let by auction for the ensuing year, April 11th, in lots of half an acre to an acre. They owe their fertility to the sewage water of the city, with which they are irrigated, and are mostly taken, we believe, by city milkmen, who cut the grass for their cows from time to time, as rapidly as it is of sufficient height—regularly four times, and, if the season permits, we think five or six times, in the course of the summer and autumn. This year the Meadow Bank meadows, about 60 English acres, brought £18, £25, £30, and £36 15s. per acre; and the Craigintinny meadows, about 300 acres English, let at £16, £20, £25, and £33 10s. per acre. In both cases the competition was very brisk, and many of the buyers commenced to cut on the evening of the auction, the grass being at that time already lodged in several places. This is a pretty high price, say from $80 to $180, or an average of about $125, for the grass grown on a single acre of land in a single year, and this, as the *Irish Farmer's Gazette* remarks, from which we obtain these facts, "not for one year among many, but for every year in succession."

The Atlantic Monthly.—This excellent magazine published by Messrs. Ticknor & Field, Boston, Mass., at $3.00 per annum, still maintains its high character. The present is a good time to subscribe. Mrs. Stowe's new story is commenced in the May number.

A Good Mower and Reaper will this year be more than ever needed, and we take pleasure in recommending the one manufactured by Messrs. Ross, Dodge & Porter, of Auburn, N. Y.

The Markets.

OFFICE OF THE GENESEE FARMER,
ROCHESTER, N. Y., May 22, 1861.

Since our last month's report, the grain market, under heavy receipts from the West, high ocean freights and unfavorable reports from England, has manifested a decidedly drooping character. All grains are lower, with the exception of choice samples of white wheat. These have *advanced* 10 cents per bushel! Choice white wheat is higher now than at any time during the past twelve months. It commands in New York $1.75 per bushel. It brought the same price May 10th last year, and for a few weeks previous, but after that date it gradually declined, till on June 20 it brought only $1.55, and on July 25 only $1.42. The lowest figure at which it was quoted during the last twelve months was $1.35, on December 12th. Red wheat, on the other hand, has *fallen* 10 cents per bushel since our last report, and on inferior samples a decline of 18 cents. Much of the red wheat received by canal from the West has arrived in New York in an unsound condition, and sales are very heavy.

Flour in New York has advanced 25 cents per barrel. The price ranges from $5 to $7.50.

Yellow and mixed corn have also declined from 5 to 10 cents per bushel; white, on the contrary, choice *white* corn is very scarce and has *advanced* in New York from 4 to 6 cents.

Oats have fallen from 2 to 3 cents, and barley 5 cents, since our last report. Beans unchanged.

The London *Mark Lane Express*, of April 29 (the latest we have received up to this date), says: "Sowing may now be considered complete throughout the United Kingdom, and under more favorable circumstances than lately anticipated. Warm nights would now be extremely serviceable after Saturday's snow; and with steady summer weather following, a seasonable harvest may be expected. But no weather can replace the lost wheat plants, or make those that are very weak productive; and the fact remains that less than the average breadth is sown of the most important grain."

A late steamer, announced by telegraph, reports a buoyant market for wheat, except for inferior qualities, which have declined from 3 to 6 cents per bushel.

The London *Farmers' Magazine* for May, speaking of the necessity of a supply of good dry wheat to mix with the damp English wheat of last season, says: "The qualities required, viz., fine, dry, heavy samples, appear nowhere abundant but in America." After alluding to "the civil war now commenced" here, it remarks: "We do not, therefore, anticipate much reduction on present rates, even with fair weather; but with any serious change, either on this score or in European politics, there is yet room for a considerable advance, as our own miserable crop is being fast used up, as well as the stocks of good foreign wheat; and there is no available resource to fall back upon, in case of need."

NEW YORK, May 21.—Wheat—Sales of white Michigan at $1.55 @$1.70, and choice Kentucky at $1.80; red winter, $1.28@$1.32. Chicago spring, unsound and soft, $1.05@$1.09; fair to good, $1.15@$1.18½; Milwaukee club, $1.17@$1.24. Corn—new mixed western, 50@54c.; old, 57@58c., and 60c. for southern yellow. Oats firm at 31@34c. Barley, 55@56c. Rye, 62@63c.

Butter in fair request at 10@15c. for new Ohio, and 12@18c. for new State. Cheese, 4@8c. Lard dull at 9@10c.

The total number of beeves in New York for the week ending May 15, was 4,834, and for the week previous, 4,636. The average number per week last year was 4 364. The price is the same as one year ago—8@9c. per lb, for the net weight of beef. "The quality, says the *Tribune*, "never averaged better than it has for several weeks, and the average weight never ranged so high." Sales were very dull at the close, but on the whole the market indicated a state of trade favorable to drovers, and they are much encouraged about the future. 827 head were taken by Government contractors and sent off to Washington.

The agent who took on a drove of bullocks for the army at Washington, reports his experience as rough as some of the soldiers have found the route. At Perryville he unloaded the cattle from the cars without platforms, pens, or any conveniences, and after feeding in a muddy field, shipped them on an inconvenient boat, from which he unloaded at Annapolis, and loaded on the cars with as few conveniences as at Perryville. He was warmly welcomed at Washington, as his bullocks, notwithstanding a hard trip, arrived in a condition far superior to any to be had in that vicinity, Maryland being voted as a hard State for beeves.

It is expected that the supply which leaves here to-day will go through Baltimore, and if so, it will make some mouths water in that almost beefless city, which has run very short of a supply of beeves since all railroad communication with it has been closed. The bullocks sent to Washington have cost about $10 a head extra transportation more than they would direct from Ohio by rail to Baltimore.

A PRIZE BULLOCK.—The *Tribune* says, a six year old steer, nearly all red, and apparently of the old Patten stock, and a later importat on of Durham blood, has attracted a good deal of attention from the butchers and others in attendance upon the market this week, not because he is the biggest bullock ever seen here, but that he is the best; that is, a mammoth in size and real fat, yet of almost perfect symmetrical form and bright healthy look. He was raised and fatted by DAVID SELSOR, a noted Ohio feeder, and weighed when he left home 3,352 pounds. He is to be taken by THOMAS WHEELER, one of the best feeders in this State, to his farm in Dutchess county, and kept till his weight exceeds the Haxton steer, or any other ever fatted, if it is possible to make him do so. Mr. WHEELER has another steer at home of about the same size. The pair will make a show next Christmas.

Milch cows are selling at from $5@$10 a head higher than they did a month or six weeks ago, and good fair looking common stock cows will average $4 @$45 per head with young calf.

The market for veal calves is glutted. The best bring from 5@6c.

The receipts of sheep were light, and the market the best for many weeks. Prices are better by a dollar per head than they were at our last month's report. Common stock clipped sheep, if not more than 80 lbs., averaged $5 each, and those of passably good quality prices equal to 6 cents per lb. live weight. It was estimated by buyers that the sales of the week would average 10 cents per pound for the net weight of mutton, sinking offal. This is higher than on any other week this spring.

Lambs were not in demand at as great a proportionate advance as sheep, but were at a decided improvement, say $5@$6 for first-class lambs, and equal to 18c. a pound for the meat, sinking offal. On Saturday there was about one butcher for each lamb at BROWNING'S, and on Monday it was much the same. On Tuesday there were a few more, and a crowd of buyers after them, willing to pay the price of a fortnight ago, but disputing violently with the brokers about the "extortionate" rates demanded. But they had to come to terms, and every pen was cleared at an early hour of both sheep and lambs, at rare prices.

One considerable drove was taken for Washington, and this probably had some effect upon the market, and quickened the blood of the city butchers.

The hog market is in a very depressed state. The supply is greater than can be absorbed by those who are prepared with cooling rooms for summer packing. Corn-fed hogs 4@4¾c.; distillery hogs 3½c. live weight—say 4¾@5¾c. dead weight.

BUTTER.—Orange county has declined 2c. per lb. It is quoted at 16@18c.; Welch tubs, new choice, 14@15c.; poor to good, 10 @13c; half firkins, good to choice, 14@15c; western Pennsylvania, fair, 9c.; Western Reserve, 12@14c.; Western common, 9@ 10c.

Beans are scarce and in good demand—medium, $1.60@$1.70. Eggs, 9c. per dozen. Potatoes—market firm, with an upward tendency. They have advanced 12@75c per barrel since last week. Mercers, choice Western and Rochester, $2.25@$2.50; common Western Mercers, $1.87@$2.12½; Peachblows, $2.12@ $2 25; Prince Alberts and Flukes, $1.75@$1.80; round Pinkeyes, $1.62; Western Reds, $1.87@2.

ROCHESTER, May 22.—Wheat—White Canadian, $1.35@$1.40; Genesee, $1.10@$1 35; Mediterranean, $1.00@$1.15. Corn firm, 42@46c. Oats, 25@27c. Rye, 50@55c. Barley, 50@55c. Buckwheat, 35@40c. Beans in demand and advanced, 85c@$1.12@ $1.40. Hay, $9@$14 per ton. Eggs, 9c. per dozen. Potatoes, 50@75c. Apples, 50@50c. Butter, 10@14c.

TORONTO, May 21.—Market, except for white wheat and white wheat flour, inactive. The price of good samples of wheat ranges from $1.20 to $1 30; ordinary, $1.15@$1 18; common, $1 09@$1.14; spring wheat in little demand at 95c@$1. Barley, 50@52c. Peas dull, 46@48c. Oats steady, 27@28c. Potatoes, 30@33c. Eggs, 8@9c. Hay $12@$17 per ton. Sheep in demand at $5@$7. Calves plentiful. Beef, $4@$5 per 100 lbs.

BUFFALO, May 21.—Wheat dull. Sales of Milwaukee club at 98c; No. 1 Chicago spring, 93½c; Sheboygan spring, bagged, $1.05; white Canada, $1.2?@$1.35; white Michigan, $1.30@ $1.35. Corn dull—sales at 35@37½c. Oats, 23c.

CHICAGO, May 18.—Wheat firm at $1 30 for No. 1, "payable in common currency," and 89@90c., in preferred. Corn quiet and firm at 45 cents in common currency.

PHILADELPHIA, May 18.—Wheat steady; white, $1.40@1.50; red, $1.35@$1.38. Corn quiet; sales at 63c.

BOUND VOLUMES OF THE GENESEE FARMER.—We can furnish any of the volumes of the *Genesee Farmer*, from 1856 to 1860 inclusive, handsomely bound, for $1 each, postage paid. The five volumes will be sent by express for $4.00.

NOTES ON THE WEATHER, FROM APRIL 14TH TO MAY 16TH' 1861.—The mean temperature of the last half of April was 48.9°, or 2.1° above the average for 24 years; and the mean of the whole month was 45.5°, or 1.8° above the average for the same years.

Thunder showers on the 22d, 23d, and 24th—all rather warm days. Vegetation came forward rapidly. Colder in the latter part of the month; some frost on the 29th, but 78° at noon, and thunder showers next day, with a cold change.

Rather pleasant month; season not forward. Water fallen in the month, was 3.216

In England, the latter part of the month was favorable to the crops.

MAY opened cold; rain and snow on the 1st, and weather 31° on the 2d, with two or three inches of snow; ground some frozen, and water also; snow melted slowly. Frost on the 4th; fruit of early soft maple killed, and soon fell to the ground. Abundance of rain in this half of May.

This fortnight of May has been cold—even only a third of a degree above that of the last half of April, and 4.5° below the average for 24 years. The coldest of this part of May was in 1841, being 43.8°, while the mean of this half for 24 years was 53.7°.

Rain and snow has given plenty of water. Lake Ontario has risen considerably.

The season is evidently later than usual. The soft maple leafed in April, but has slowly advanced; and so much the cold that the hard maple has leafed in a week, but has sent forth no flowers. The highest mean in this half of May was 56.3°, and that of the last half of April was 66.3°. Though cool and late the season, a fortnight of usually warm weather would make a great and favorable change. Let us hope and ask for it.

ADVERTISING IN THE GENESEE FARMER.—Last year, Mr. JAMES J. H. GREGORY, of Marblehead, Mass., kept an account of the number of orders he received from his advertisement in the different agricultural papers. He was surprised to find the *Farmer*, in proportion to charges, such a good paper to advertise in. Under date, April 16, 1861, he writes: "I have not kept a record of my returns from your paper this year as accurately as that of last; but this much I can safely say, that the same outlay in advertising in the GENESEE FARMER has paid me better than in most other agricultural papers. I have received more letters from Canada West, from advertising in the *Farmer*, than through *all other sources combined!*"

We believe there is no better medium for advertising everything of interest to farmers and horticulturists than the *Genesee Farmer*—and the pressure on our columns indicates that this fact is becoming generally known. We have been obliged to omit three advertisements this month, but they will appear in our next. Our advertising friends must be patient, and we will try and find room for all, in due season.

UNLOADING HAY BY HORSE-POWER.—We would call attention to GLADDING'S Horse Pitch Fork, for unloading hay. It is a useful and labor-saving implement, which we can recommend. See Mr. BALLOCK'S advertisement in this number.

Sabbath in the Country.

The creaking wagon 's in the shed;
The busy flail is heard no more;
The horse is littered down and fed,
The harness hangs above his head,
The whip behind the door,

His leathern gloves and hooked bill
To-day the woodman throws aside;
The blacksmith's fiery forge is still,
The wooden wheel of the old mill
Sleeps in the mill-dam wide.

The miller's boat is anchored where,
Far out, the water-lilies sleep;
You see their shadows mirrored there,
The broad white flowers reflected clear
Within the mill-pond deep.

The barrow 's in the garden shed,
Hoe, rake and spade are put away;
Unweeded stands the onion-bed,
The gardener from his work hath fled;
'Tis holy Sabbath day!

Upon the wall the white cat sleeps,
By which the churn and milk-pans lie;
A drowsy watch the house-dog keeps,
And scarcely from his dull eye peeps
Upon the passer-by.

And sweetly over hill and dale
The silvery sounding church bells ring;
Across the moor and down the dale
They come and go, and on the gale
Their Sabbath tidings fling.

From where the white-washed Sunday school
Peeps out between the poplars dim,
Which ever throw their shadows cool
Far out upon the rushy pool,
You hear the Sabbath hymn.

From farm and field, and grange grown gray,
From woodland walks and winding ways,
The old and young, and grave and gay,
Unto the old church come to pray,
And sing God's holy praise.

Inquiries and Answers.

CUCUMBER BUGS.—(B. S.) Sow plenty of seed; and then in a week or so later sow more on the side of the hill, and in a week later sow some more on the other side, and so on for three or four weeks. The young plants on the side of the hill will furnish food for the bugs, and they will leave the older ones in the center untouched, after the first few days. Thin them out as soon as the bugs are no longer to be feared.

HOW MANY HILLS OF CORN TO THE ACRE.—(J. R.) If three feet apart each way, there will be 4,840 hills to the acre; if 3½ feet, 3,530; if 4 feet, 2,722. *If* you get as much corn to each hill, 3 feet apart as 3½ feet, you would get as much from 3 acres planted 3 feet apart as from 4 planted 3½ feet. But it is by no means certain that such would be the case.

HUNGARIAN GRASS.—(R. S.) We have had no experience with this crop. Those who have, generally speak highly of it. There can be no doubt that a large amount of fodder and seed can be obtained from it. Sow from half a bushel to a bushel of seed, as early this month as the ground can be got ready.

HORSE HOE OR CULTIVATOR PLOW.—(J. M.) One of the most popular and widely-used implements is Hyde & Wright's patent Horse Hoe, made by A. GORDON, of this city. See his advertisement.

OLD SEED.—How old may field and garden seeds be, and yet be safe to sow? J. S. FISH.

MORTAR.—(J. A. B.) The lime should be fresh from the kiln, and it should not be slaked until it is about to be mixed with the sand. The sand should consist of angular particles of various sizes, perfectly free from admixture with clay, mud, or earth matter. This is spoken of technically as clean sharp sand; sea sand is not good, because it is difficult, even by washing, to free its particles from saline matter, and they are also generally rounded by attrition, which renders them less fit to serve as a nucleus for the lime. The effect of the saline matter remaining in the mortar, is to render the wall perpetually damp by the absorption of moisture from the atmosphere. The proportions of lime and sand can only be judged of by direct experiment. The lime should be in such quantity as to fill up properly the interstices between the particles of the sand, and to prevent them from being in absolute contact with each other. A good approximate rule may be found by filling any vessel with sand, and then adding water until the voids between the particles of the sand are filled and its surface covered; the bulk of water will then serve as a pretty fair guide to the quantity of lime required. In practice, a fair proportion is two parts sand to one of lime, with as much water added as will make the mass of a pasty consistence. Some qualities of lime require much more sand than this, even so much as four and six parts of sand to one of lime. The common practice of builders, however, is to err on this side, adding almost invariably too much sand, to the deterioration of the mortar.

In mixing the sand and lime, the endeavor should be to obtain as homogeneous a mass as possible. When the mortar is made, it should be kept in a pit or close place, and protected from the action of the air. Mortar thus kept is found to improve by age, and when required for use it is taken out in such quantities as may be wanted, and beaten up with as much water as will make it work freely.

TURNIPS.—(J. L. H.) Ruta bagas should always be sown in drills. The common white turnips may be sown broad cast. The former should be sown this month, after you have finished your other planting, and as soon as the ground can be got ready. The preparation of the ground is very important. It can not be too fine and mellow, or too rich. Sow in drills from 2 to 2½ feet apart. Sow plenty of seed, say from 1½ to 3 lbs. per acre, and when in the rough leaf thin out the plants to one foot apart. Plenty of seed is the surest way of avoiding injury from the fly—and even then is not always successful. Dusting the plants with plaster has been recommended to keep off the fly, and if it is of no other value, it will prove useful as a manure.

White turnips, for a farm crop, should not be sown before the 1st of July, and from that on to the middle of August.

PRESERVING CIDER.—If any of your readers have tried Sulphite of Lime during last autumn for the purpose of keeping cider sweet, or at a proper state of fermentation, would be kind enough to give the result of their experiments through the medium of the *Genesee Farmer*, I and others in this section will feel much obliged to them. I should also like to know what the average price per gallon of a first-rate article of fermented or clarified cider is, in the New York market during the season?—J. C. S., *Niagara, C. W.*

CURCULIO ON THE PLUM.—(A. P. B.) The method you allude to was recommended in the N. Y. *Observer*. It was to syringe the trees during the season of the curculio until the stone of the fruit becomes hardened, with a mixture made of 1 lb. whale oil soap and 4 oz. of sulphur, mixed thoroughly and dissolved in 12 gallons of water. Then to one peck of quick lime add 4 gallons of water, and stir well together. When fully settled, pour off the clear lime water, and add it to the soap and sulphur mixture. To this, again, add 4 gallons of tolerably strong tobacco water. Syringe the trees with this mixture till the foliage is well drenched. If no rains succeed for three weeks, one application will be sufficient. If rains wash off the mixture, apply again.

Since recommended by the *Observer*, that paper has published several communications from correspondents who have used it with good results. One of our friends in this city, however, used it last season, and considered it a failure. The curculio was found on the plum trees in the morning after the mixture had been used the previous evening. It was freely used on apricots, and all the fruit was lost. Others may be more successful.

If regularly attended to early every morning, jarring the tree and shaking the curculio into sheets is effectual. The plan usually adopted is to strike the end of a limb, that has been sawn off, with an axe or mallet. A sharp blow is necessary to shake off the curculios.

Much might be done to lessen the numbers of this formidable pest, by making the ground smooth under the trees, and sweeping up all stung fruit as soon as it falls from the trees and destroying it.

BUCKSKINS.—Please give, in the *Genesee Farmer*, the *best* receipt for curing and dressing buckskins yellow, for gloves, so they will have a fine surface.—A SUBSCRIBER, *London, C. W.*

Will some of our correspondents answer the above? E. D. HALLOCK, of this city, is practicing a method of tanning skins, furs, etc., discovered by D. L. HALLOCK, of Westbury, Cayuga Co., N. Y., which is remarkably expeditious and efficacious. The skins are tanned in from two to four days, and are good and strong, entirely inodorous, and do not seem to be injured by being wet or washed. What Mr. H. charges for his discovery we do not know. You can ascertain by addressing him.

MILDEW ON THE GRAPE.—(P. B.) Sulphur is an effectual cure, if dusted on the leaves and bushes as soon as the first symptoms of the mildew are seen. There can no longer be any doubt on this point. There is no necessity for ever having grapes mildewed.

ANTS IN BEE-HIVES.—If they are "patent" hives, and the ants work in around the boxes, I have found plaster, finely pulverized and dusted around the box—also salt, sprinkled in the crevices—to be very effectual preventives. But perhaps the best method is to hang the bench on which they sit on rods, and keep a ring of fresh tar around them; or pitch the holes where the rods pass through the bench, and keep them filled with water.—S. C. S., *Arnottsville, Va.*

I should feel very much obliged for answers to the following questions: 1. What is the best method of treating an unruly heifer or cow after calving? 2. Is it best to bury stones under ground, or to pile them up in heaps and make a stone fence with them? 3. What is the best and cheapest stump-puller in use?—CHAS. GILLIE, *C. W.*

INDIAN CORN IN THE FREE AND SLAVE STATES.—(BENJ. HOUSE.) According to the census of 1840, the corn crop of the United States was 377,531,875 bushels; and according to that of 1850, 592,326,612 bushels. The following table will answer your inquiry. It shows the amount of corn raised in the free and in the slave states, in 1840 and in 1850:

SLAVE STATES.

	1840.	1850.
Alabama	20,947,004	28,754,048
Arkansas	4,846,632	8,893,989
Delaware	2,099,350	3,145,542
Florida	893,974	1,996,809
Georgia	20,905,122	30,080,99
Kentucky	39,847,120	58,672,591
Louisiana	5,952,912	10,268,372
Maryland	8,233,086	10,749,858
Mississippi	18,161,237	22,446,552
Missouri	17,332,524	36,214,537
North Carolina	28,893,763	27,941,051
South Carolina	14,722,805	16,271,454
Tennessee	44,986,1?8	52,276,223
Texas	———	6,028,876
Virginia	34,577,591	35,254,819
Total	252,404,317	348,992,270

FREE STATES.

	1840.	1850.
California	———	12,336
Columbia (District of)	89 485	65.230
Connecticut	1,500,441	1.995,013
Illinois	22,634,211	57,646,984
Indiana	28,155,887	52,964,363
Iowa	1,406,241	8,656,799
Maine	950,528	1,750,056
Massachusetts	1,809,192	2,345,490
Michigan	2,277,089	5,641,420
New Hampshire	1,162,572	1,573,670
New Jersey	4,861,975	8,759,904
New York	10,972,286	17,857,400
Ohio	33,668,144	59,078,695
Pennsylvania	14,240,023	19,885,214
Rhode Island	450,498	539,201
Vermont	1,119,678	2,032,396
Wisconsin	379,359	1,988,979
Minnesota	———	16,725
New Mexico	———	365,411
Oregon	———	2,918
Utah	———	9,599
Total	123,127,558	243,077,883

It appears from this that the slave states raise over one hundred million bushels more corn than the free states and territories.

OLD BRINE.—(N. S.) It is a valuable manure. Analyses made in France, recently, show that brine in which herrings have been pickled, contains a considerable quantity of nitrogen and phosphoric acid, which the brine had extracted from the fish. These are the two most valuable ingredients of all manures, and old brine should not be thrown away. It may be applied directly to the land, or thrown on a compost or manure heap.

Special Notices.

FRUIT GROWERS' SOCIETY OF WESTERN NEW YORK.—Pursuant to adjournment of the Annual Meeting for 1861, the Spring Meeting of this Society will be held at the Court House in Syracuse June 25th, 1861, at 10 o'clock A. M.

By order of the Council. C. P. BISSELL, Secretary.

IMPORTANT TO FARMERS.—To those who wish to purchase a *perfect "Combined Reaper and Mower,"* we would say that "Ball's Ohio Mower and Reaper" is manufactured at Auburn Prison, by Messrs. ROSS, DODGE & POMEROY, sole proprietors for the State of New York for the use of these valuable patents. The machine is made of the best material, and warranted to be a perfect Mower or Reaper, and to cut easily, without clogging, any kind of grain or grass, either wet or dry.

The Mower has a cast steel Cutter-bar, 4 feet and 6 inches cut with polished wrought iron guards, plated in the slot with cast steel and tempered.

The Reaping attachment has a Finger-bar and polished wrought iron guards attached to it, with a sickle-edged knife, which, for cutting grain, is far better than the smooth-edge mowing knives generally used. By means of the separate Finger-bar and Sickle, they are enabled to make the Reaper cut either five or six feet swath, and dispense with the heavy mowing-bar when reaping.

The Combined Reaper and Mower is delivered to the purchaser for the sum of $150 for a six months note without interest, or for $145 cash. The agents for Monroe Co., N. Y., are J. W. HANNAM, of Clifton, and DANIEL KINGSLEY, of Pittsford.

ADVERTISEMENTS.

A FEW short advertisements of interest to farmers—and only such—will be inserted in the *Genesee Farmer* for twenty-five cents a line, or $2.50 per square, each insertion, payable in advance. To secure insertion, they should be sent in by the 15th of the previous month. The *Farmer* has large lists of subscribers in *every State and Territory, and in all the British Provinces.* (It has nearly 5000 subscribers in Canada West alone.) There is no better or cheaper medium for advertising everything of general interest to rural residents in all parts of the United States and Canada.

We will also insert a few "Special Notices," if appropriate to our columns, at fifty cents a line.

Thorough-Bred Devon Cattle for Sale.

I WILL spare a few of Both Sexes and various ages. Among the bulls is a fine yearling, sired by Toronto (611), dam Pocahontas (1444)—see Vol. III. Devon Herd Book and appendix. Toronto (611) will be for sale, or exchange for a really first-class bull, after the 20th of August next. For full particulars, address GEO. B. LOCKWOOD, Victory, Cayuga Co., N. Y.

ITALIAN BEES.

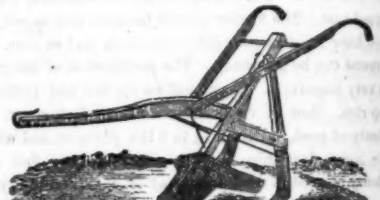
THE ONLY IMPORTATION THIS SEASON.

HAVING imported, per steamer New York, a lot of Genuine Italian Bees, which arrived in a remarkably good state, I shall be able to furnish amateurs with Pure, Genuine Italian Queens within a short time. For price and other information, apply to C. WM. ROSE, 63 Exchange Place, New York.

☞ AGENTS WANTED.

ROCHESTER AGRICULTURAL WORKS.

HYDE & WRIGHT'S HORSE HOE, OR CULTIVATOR PLOW.



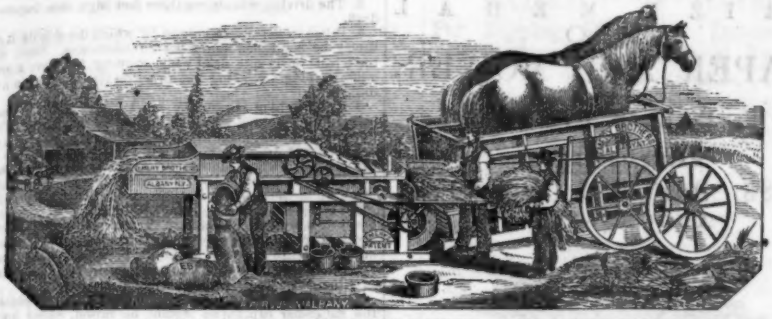
A. GORDON, 68 South St. Paul St., Rochester, N. Y.,

MANUFACTURER OF

Hyde & Wright's HORSE HOE or CULTIVATOR PLOW, Rulofson & DeGarmo's IMPROVED STRAIGHT DRAFT PLOW, Pitt's Premium THRESHING MACHINE, Gordon's ALL IRON EIGHT and TEN HORSE POWERS, Gordon's EMPIRE FEED CUTTER, and ROCHESTER CUTTING BOX.

ALL of the above embrace the Latest Improvements, and are the best of the kind—are made in the most substantial and finished manner. I am the only manufacturer from whom most of the above implements can be procured. Farmers and Dealers in Agricultural Tools, desiring to secure the best Farming Utensils, are requested to send for Descriptive Circulars. Every Implement named has received the *First Premium*, having been awarded Silver and Gold Medals.

☞ ORDERS RESPECTFULLY SOLICITED.



ALBANY AGRICULTURAL WORKS,

WAREHOUSE AND SEED STORE,

EMERY BROTHERS,

Proprietors,

No. 62 & 64 STATE STREET, ALBANY, N. Y.,

PATENTEES AND MANUFACTURERS OF

EMERY'S PATENT CHANGEABLE RAILROAD HORSE POWER.

ALSO, LEVER POWERS

For Four, Six and Eight Horses, of new and superior construction, together with a great variety of

AGRICULTURAL MACHINERY.

ALSO

GENERAL DEALERS IN IMPLEMENPS AND SEEDS.

HORSE POWERS.

IT has ever been the aim of the proprietors to make none but the first class of work and always use the best materials and workmanship. In the construction of their Horse Powers they have endeavored to adapt them most readily and advantageously to the great variety of purposes required by the Farmer and Mechanic. The same considerations have guided them in the construction and adaptation of the various Machines sold by them, and to be driven by the power, in calculating their various velocities, forces, pulleys and geers required to enable them to operate to their maximum efficiency, which is the great secret of their success.

THRASHING MACHINES,

WITH SEPARATING AND CLEANING ATTACHMENT,

Combined and adapted for all kinds and conditions of grain, &c.

This machine is the greatest success in its line yet produced. It can be operated with two horses as easily, and with equal results, as the ordinary thrashing machine without the cleaning attachment; while its capacity adapts it equally well to the force of four or six horses.

It will thresh perfectly clean from the straw, and clean the grain for market without any wastage in any part of the process.

It is complete in one frame. Very compact and simple—runs light, still, and without any concussion from its moving parts. It has been very extensively used during the past two harvests, and its superiority over any other in market established beyond question, and, considering its capacity and cost of construction, it is at least 50 per cent. cheaper than any other similar machine in use.

CLOVER MILLS AND CLEANERS.

This is a new Machine comparatively, and is believed to be one of the best Machines for the purpose ever made; can be driven by one, two, or more horses at a high or slow velocity, and do equally good work, and with wet and bad, as well as good condition of the clover chaff. It cleans the seed and delivers it fit for market at the same operation.

STALK AND STRAW CUTTERS.

For Horse Power—a strong and durable machine, and adjustable to any length of cut.

FEED MILLS.

For Grinding all kinds of Grain for Feeding, as well as corn in the ear when desired. Several sizes, and with or without Sieves and Bolts attached.

CIDER MILLS.

For Power and Hand use, with or without Press attached. These Mills and Presses are of a superior style and utility to any others in use.

SAWING MILLS,

With Circular Saws, for Cutting Fire-wood, Slitting Boards, Plank, &c., for fencing and building purposes; also with Machine Cross-cut, for cutting Logs for Wood, Shingles, Staves, &c.; also Mills for making Shingles.

COTTON GINS,

WITH COTTON LINT CLEANER AND CONDENSER,

Cotton Gins with Improved Feeding Hoppers, with 80 to 100 Saws, calculated for one to eight horses. These are superior in finish and adaptation to the wants of the Cotton Grower, to anything of the kind before offered to the public.

THE LINT CONDENSER is an attachment suited to any ordinary Cotton Gin; it receives the lint as it is discharged from the Gin, condenses it and delivers it compact, ready for the press at one and the same operation, and at the same operation cleanses it of all earthy matter, as sand, dust, &c. It dispenses with the necessity of any lint room and large buildings, as the Gin may be equally as advantageously used in the field as the grain thrasher, and when used in buildings it requires no more additional room than the size of the Gin itself occupies. It is also a perfect safeguard against fire, as it is impossible for the burning flint to pass through the machine without the fire being extinguished in its passage, thus making this Cotton Gin with its condenser, fire proof. They have been extensively used in Georgia the past two crops, and the cotton made by them has commanded an advanced price over that ginned by the best machines in use.

AGRICULTURAL IMPLEMENTS

constantly on hand, embracing a large and selected assortment of Plows, Harrows, Cultivators, Dog Powers, Churns, and Cheese Presses; also Forks, Hoes, Shovels, &c., always on hand at the lowest manufacturers' terms.

ILLUMINATED CATALOGUE.

The Proprietors have completed their new Catalogue—the most complete and beautifully illustrated work ever published by any manufacturer, embracing a great number of finely executed and carefully prepared

ILLUSTRATIONS AND DESCRIPTIONS,

together with ample references and indices as well as the Prices, Terms of Sale, Weight, Cubic Measurements, Capacity, Directions for Use, Durability and Warranty of their

MACHINERY, IMPLEMENTS AND SEEDS.

On receipt of three cents in stamps to prepay postage, it will be sent to all applicants. Local Agencies solicited for the sale of the above Machines.

EMERY BROTHERS,
No. 62 & 64 State Street, Albany, N. Y.

PRIZE MEDAL OHIO REAPER AND MOWER.

E. BALL'S PATENT.

MANUFACTURED BY

ROSS, DODGE & POMROY,

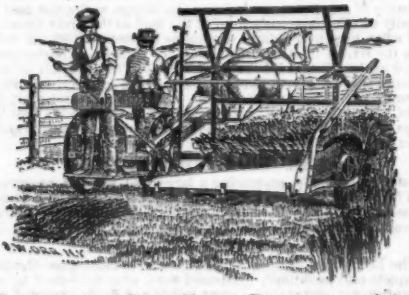
AUBURN, N. Y.

1. The carriage of the machine is mounted on two driving wheels. In connection with each of these is a spur wheel and pinion, making the machine stronger and more durable than any single-geared machine can be.

2. The relation between these two driving wheels is such that they operate jointly or separately, as circumstances may require. The result of this is, that when the machine is moving on a curve, either to the right or left, the usual speed of the knife is retained and clogging avoided, and in turning and backing the machine throws itself out of gear.

3 The weight of the carriage and gearing attached to it, as well as that of both raker and driver, is thrown directly upon the two driving wheels, by which the following advantages are gained: 1st. The wheels are prevented from slipping on the ground, and thus prevent the machine clogging. 2d. A powerful and efficient stroke to the knife is produced, enabling the machine to cut any kind of grass or grain without difficulty. 3d. No weight being thrown on either the platform or cutter bar but that of its own, side draft is obviated, and the machine made to run lighter.

4. The machine, both as a Reaper and Mower, has a flexible cutter-bar, which invariably adapts itself to the uneven surface of the ground. This is the first successful machine that ever combined this principle, and it is now an almost universally admitted fact among intelligent farmers and mechanics that it is impossible to construct a good Mowing machine without having a flexible cutter-bar and two driving wheels.



The advantages of this machine as a Reaper are very obvious:

1. The grain is delivered at the side of the platform, entirely out of the way of the next round.

2. It cuts a swath six feet wide, and will cut one acre per hour with one span of horses without injuring them.

3. It can be changed from a Mower to a Reaper in fifteen minutes, and vice versa.

There are other general points of excellence, the simple mention of which will be at once understood by the practical farmer.

1. The mechanical execution of the work, as well as the character of the materials used in their construction, is superior to that of most machines of the kind

2. The driving wheels are three feet high, thus improving the draft.

3. It has an adjustable tongue by which the side draft can positively be controlled under all circumstances. Some machines have little or no side draft while mowing, but have a great deal while reaping. Nothing but an adjustable tongue can avoid this difficulty.

4 The height of the stubble can be changed from one to five inches in an instant, without stopping the machine. This is an important improvement from the fact that it enables the machine to cut lodged grass as close to the ground as that which is standing; or to cut a high stubble where the ground is rough, boggy, or stony; or the points of the guards can be turned above the grass whilst the machine may be passing over it after it is cut.

5. In case the "Lifting Principle" should be preferred to the one just described, the cutter-bar can be confined to cut at any given height, and then by the use of the lever, the driver, while on his seat, can raise the cutter-bar parallel with the ground from three to twelve inches. This arrangement facilitates turning and backing, or passing over large stones or stumps.

6. In moving the machine over cut grass, or from place to place, the cutter-bar can, in an instant, be raised, folded up and supported against the side of the machine.

7. The journals run in iron boxes babbeted, excepting the pitman box, which is composition.

8. The guards are polished wrought-iron, plated with cast steel. The Mower cuts four feet six inches wide.

MANUFACTURED AT THE AUBURN STATE PRISON

April—4t. **ROSS, DODGE & POMROY.**

GUANO.

We would call the attention of Guano Dealers, Planters, and Farmers, to the article which we have on hand and for sale at

40 PER CENT LESS THAN PERUVIAN GUANO,

which we claim to be superior to any Guano or fertilizer ever imported or manufactured in this country.

THIS GUANO IS IMPORTED BY

WM. H. WEBB,

OF NEW YORK, FROM

Baker's and Jarvis' Islands, in the South Pacific Ocean.

Sold genuine and pure as imported, by the Cargo, or at retail by

JOHN B. SARDY, GENERAL AGENT,

NO. 58 SOUTH SREET, CORNER WALL STREET.

NEW YORK.

It has been satisfactorily tested by many of our prominent Farmers, and analyzed by the most eminent and popular Agricultural Chemists, including Professor LIEBIG, of Germany, extracts of whose report and analysis are to be seen below, and found to contain (as will be seen by our circular) over 80 per cent. of

PHOSPHATE OF LIME,

and other animal organic matter, yielding ammonia sufficient to produce immediate abundant crops, besides substantially enriching the soil. It can be freely used without danger of burning the seed or plant by coming in contact with it, as is the case with some other fertilizers; retaining a great degree of moisture, it causes the plant to grow in a healthy condition, and, as experience has proved,

FREE OF INSECTS.

For orders in any quantitity (which will be promptly attended to), or pamplets containing full particulars of analyses and use of Farmers, apply as above.

Prof. LIEBIG say, under date—July, 1860:

"The Baker's Island Guano contains more *Phosphoric Acid* than any other known fertilizer. * * * I regard the discovery of these guano deposits as a most fortunate event for agriculture. * * * The Phosphate of Lime in the Baker's Island Guano is far more easily dissolved than that of bones. * * * *Agriculturists would be benefitted as much by using* 70 *lbs of Baker's Island Guano as by* 100 *lbs of Bone Dust.* * * * The Jarvis Island Guano would seem to be an excellent means of restoring cotton and sugar plantations, whose soil has been worn out by long continued cultivation. *I think it is preferable to Peruvian Guano*, which being rich in ammonia, tends rather to great development of leaves and stems."

"Women of New York."

MRS. HANKINS' Curious new Book of Female Character in the City, is very interesting and strictly moral. Fine binding. 350 pages. 50 Engravings. 36 Portraits. Mailed free for $1. AGENTS Wanted—Ladies and Teachers. Descriptive of Books and Particulars of Agency mailed gratis. Address

March.—6t. HANKINS & CO., New York.

New York State

AGRICULTURAL WORKS,

Wheeler, Melick & Co.,

PROPRIETORS, ALBANY,

Manufacture WHEELER'S Patent Railway Chain

HORSE POWERS,

(FOR 1 OR 2 HORSES,)

PLANTATION HORSE POWERS,

(4 HORSE, OR 6 MULE, LEVER,)

WHEELER'S (IMPROVED) PATENT

COMBINED THRESHER AND WINNOWER

(No. 1, 30 INCH, and No. 2, 26 INCH CYLINDERS,)

Overshot Thresher and Separator,

and other Farming Machines for Horse Power use.

The Subscribers are inventors of all the above Machines, and give their entire attention to the manufacture of them; and having had the longest and largest experience of any firm in this business, feel warranted in saying that their MACHINES ARE UNEQUALLED. They call especial attention to their

Improved Thresher and Winnower,

Of which over 400 were sold in 1860, satisfying all purchasers of their superiority and economy for THRESHING, SEPARATING AND WINNOWING, AT ONE OPERATION.

CIRCULARS, containing List of Prices, *full Description*, and Cuts of each Machine, with statements of their capabilities for work, will, on application, be sent by mail, postage free.

☞ Liberal discounts are made to dealers.

Responsible Agents are wanted in sections where we have none. Address May—2t.

WHEELER, MELICK & CO., Albany, N. Y.

WM. PATERSON'S

Improved Superphosphate of Lime.

MANUFACTURED and for sale at Division Street Wharf, Newark, N. J., and by the Manufacturer's Agents in this and other States.

It is put up in bags of 100 and 150 lbs. each, and marked with the Maker's name, to whom orders sent with cash, or satisfactory references here or in New York, will be promptly executed.

The aforesaid article consists principally of Charred Bones, dissolved by Sulphuric Acid with a large proportion of Peruvian Guano and other important ingredients

The largely increased sales for the last seven years, with the unsolicited reports of Agents, and premiums awarded by State and other Agricultural exhibitions in past years, attest satisfactorily its remunerative results, being found more permanent in its effects than Peruvian Guano, and consequently more profitable.

It has been the aim of the manufacturer to make this manure what it is avowed to be, and the public may rest assured that it will continue to be uniform in quality and profitable to the buyer Circulars, with particular instructions for use, will be sent by mail when requested or on application to his agents.

March—7t. WM PATERSON,

Thorough-Bred Stock.

THE Subscribers, BRODIE, CAMPBELL & CO, are now engaged in Breeding and Importing Farm Stock of the first quality. Mr. BRODIE was formerly of the firm of HUNGERFOLD & BRODIE (which firm is now dissolved.) His skill and large experience in the business are well known to Breeders.

Part of the Stock can be seen at S. CAMPBELL'S place, three miles west of Utica, or one and a half miles from the Whitesboro Depot, N. Y. Central R. R.

Mr. HUGH BRODIE is now visiting England and Scotland selecting animals. Parties wishing to purchase Short Horns or Ayrshires Leicester Sheep, or Yorkshire Hogs, can address

ap-3t JAMES BRODIE, Rural Hill, Jefferson Co., N. Y., or S. CAMPBELL & CO., New York Mills, Oneida Co., N. Y.

EXTRACT OF TOBACCO,

For Dipping Sheep and Lambs, and for Destroying all kinds of Vermin on other animals.

THE Manufacturers of this new and valuable preparation beg leave to call the attention of Farmers and Graziers to this effectual remedy for destroying Ticks, Lice, and all other insects injurious to animals and vegetation, and preventing the alarming attacks of the Fly and Scab on Sheep.

Its use not only removes the Vermin on animals, but cleanses and purifies the skin, thereby materially benefiting their general health, and greatly improving wool, both in quality and quantity.

This article completely supercedes that *laborious* and *disagreeable* work of preparation in your own buildings for Sheep-washing, as it is ready at all times, in any climate, and for all descriptions of Sheep, even for Ewes in Lamb, and can be furnished at a much reduced cost. FISHER & CO., SOLE AGENTS,

April—3t. 23 Central Wharf, Boston.

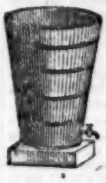
AMALGAM BELLS,

At Prices Within the Reach of every Church, School-house, Factory, Cemetery or Farm in the Land.

THEIR use all over the United States for the past two years has proven them to combine more valuable qualities than any other, among which tone, strength, durability, vibrations and sonorous qualities are unequalled by any other manufacturer. Sizes, 50 to 5,000 lbs., costing less than half other metal, or 12½ cents per lb., at which price we warrant them 12 months. Send for circular for sizes, guaranties, &c.

M. C. CHADWICK & CO.,

April—3t. 199 William St., New York.



THE KEDZIE FILTER.

This Filter possess a very *practical* and *scientific* arrangement for the objects intended, viz: rendering the most impure rain and river water free from all decomposed organic matters and gases, color, taste or smell. *Pure Water* is the chief conservator of the human system, and can be surely obtained by using this, the best portable Filter known. They are durable, convenient and cheap; can be transported in safety any distance, and are sure to give satisfaction.

Manufactured by

JAMES TERRY & CO., Rochester, N. Y.

☞ Descriptive Catalogues sent free. May—3t.

WOOD CUTS FOR SALE.

WE will sell Stereotypes of the Wood Cuts used in the *Genesee Farmer* and *Rural Annual and Horticultural Directory*. A book containing impressions of over Seven Hundred of these cuts will be sent to those wishing to purchase on the receipt of 50 cents. The book contains an index, showing where descriptions of the cuts will be found.

Address JOSEPH HARRIS, ROCHESTER, N. Y.

"FAMILY NEWSPAPER."

MRS. HANKINS' Mammoth Pictorial is in its Sixth Volume, and has 300,000 readers. Full of Engravings and Fashion Plates. Largest, nicest and best in the World, for **75 cents a year.** AGENTS Wanted. Ladies, Teachers, Clergymen or Post Masters. Specimen copies and Terms to Agents mailed gratis.

March.—6t. Address HANKINS & CO., New York.

FANCY FOWLS.—I have on hand, for sale, White Dorkings Black Spanish, Black and Golden Spangled Polands and Hamburghs, Black African, White, Red and Golden Spangled Bantams, Madagascar Rabbits and four varieties of Geese, etc. For further information address, W. A. GOODING,

March—10t.* Lockport, Illinois.

GEORGE MILLER—Importer and Breeder of Short-horn and Galloway Cattle, Leicester and Cotswold Sheep, Markham P. O., Co. York, Canada West. N. B. A few choice Dorking Fowls, bred from imported stock, can be had in autumn. Price $5 per pair. July—1y

6,000 AGENTS WANTED—To sell SIX NEW INVENTIONS—two very recent, and of great value to families; all pay great profits to Agents. Send four stamps and get 80 pages particulars. My3t* EPHRAIM BROWN, Lowell, Mass.

$100 PER MONTH—Made by any one with Stencil Tools. For a circular explaining the business,

Address JOHN MILLIKEN,

May—1y. Lawrence, Mass.

PLEURO-PNEUMONIA IN CATTLE.—The Subscriber prepares a medicine which cures this disease when given in its *earliest stages*. GEO. J. SCATTERGOOD, Druggist,

May—2t. 50 Callowhill Street, Philadelphia, Pa.

$5 MAP FOR 25 CENTS!

COLORED IN STATES, NICELY,

OR, 15 CTS. PLAIN.

Took 3 Years to Engrave this Map.

LLOYD'S UNITED STATES R. R. MAP OF AMERICA IS NOW READY.

HAVING been engraved on a new plan entirely, and printed and colored on a POWER PRESS, we can make and color it so low as to defy competition. The usual price of a Map of this size is from $5 to $8.

IT IS FOUR FEET SQUARE,

Printed on an entire sheet of strong white linen paper, and shows to the reader, at one glance, from CANADA to TEXAS, and is *acknowledged by all R. R. men to be the most CORRECT* Map ever offered to the people of this Country, and is used by them altogether. To show how correct this Map is, we will just say that, on the 26th of March, the Cincinnati and Chicago Air Line R. R. was opened from Cincinnati to Chicago, and it is laid down correctly on our Map.

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Over $100,000,000 of private capital have been expended on the railways of Illinois. Inasmuch as part of the income from several these works, with a valuable public fund in lands, go to diminish the State expenses, the TAXES ARE LIGHT, and must consequently every day decrease.

THE STATE DEBT.

The State Debt is only $10,105,398, 14, and within the last three years has been reduced $2,959,746 80, and we may reasonably expect that in ten years it will become extinct.

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J. W. FOSTER, Land Commissioner, Chicago, Illinois.

PRESENT POPULATION.

The State is rapidly filling up with population; 868,025 persons having been added since 1850, making the present population 1,723,663, a ratio of 102 per cent. in ten years.

AGRICULTURAL PRODUCTS.

The Agricultural products of Illinois are greater than those of any other State. The products sent out during the past year exceeded 1,500,000 tons. The wheat crop of 1860 approaches 35,000,000 bushels, while the corn crop yields not less than 140,000,000 bushels.

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